# Ohmite: Precision Power Resistors 2 0 2 0

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Ohmite's power resistors have led the industry in product innovation for over 90 years. We offer multiple product types to suit specific application requirements. From surface mount components to large load banks, Ohmite carries the products required for your application. All Ohmite resistive products are RoHS Compliant.

# OHMITE POWER RESISTORS

		APP	LICATIONS			
High Power	Heat Sinkable High Power	High Voltage	Surge / High Energy	High Current / Braking	Current Sense	Sensors / Sensing
14984 Series	89 Series	ARCOL ARC2 Series	280 Series	14984 Series	10 Series	FSR Series
210 Series	ARCOL Aluminum Housed	ARCOL ARC3 Series	30 Series	280 Series	14A Series	FSP Series
250 Series	ARCOL HS Series 400-600	HVC Series	A Series	BA Series	60 Series	FST Series
270 Series	ARCOL AP101 Series	MacroChip Series	AS Series	Euro-Power Wirewound	60S Series	
280 Series	ARCOL AP725 Series	Maxi-Mox Series	EY Series	HCLB Series	ARCOL CRS Series	
Audio Gold Resistors	ARCOL AP830 Series	MC1RD Series	G Series	JR Series	ARCOL L4T Series	
Euro-Power Wirewound	ARCOL AP836 Series	MC4 Series	MOX500 Series	PFE and PFR Series	CS3 Series	
HCLB Series	ARCOL AP851 Series	Mini-Mox Series	OD/OF/OA Series	S Series Shunts	CS5 Series	
PFE and PFR Series	ARCOL ARF Series	Power-Mox Series	OX/OY Series	SGM Series	EBW Series	
Power-Mox Series	ARCOL FPA600 Series	RX-1M Hi-Meg	TFS Series	SH Series Shunt	FC4L Series	
SGM Series	ARCOL TFBR Series	Slim-Mox Series	TP Series High Energy	WLRD6G Series	FC4T Series	
TA Series	ARG Series	Super Mox Series	TRH Series	WLRH Series	FCSL Series	
TP Series High Energy	BA Series	TFS Series	100 Series		FK/GK Series	
TRH Series	IS Series Resistor	TRH Series	200 Series		KDV Series	
WLRD6G Series	Metalohm Series	100 Series	500 Series		LVC Series	
WLRH Series	TAH20 Series	200 Series	800 Series		LVK Series	
	TAP1K & TAP2K Series	500 Series	1000 Series		LVM Series	
	TAP2K Series	800 Series			LVR Series	
	TAP650 Series	1000 Series			LVT Series	
	TAP600/TAP800 Series				MCS Series	
	TBH25 Series				PCS Series	
	TCH35 Series				RW1/RW2 Series	
	TDH35 Series				S Series Shunts	
	TEH100 Series				SB Series	
	TEH140				SH Series Shunt	
	TGH Series				TGHG Series	
	TGHD Series					
	TGHG Series					
	TGHM Series					
	TGHP Series					
	TKH45 Series					
	TL series					
	WFH Series					

# **HIGH POWER/HEAT SINKABLE HIGH POWER**

Ohmite has multiple part series for High Power, Surge, Current Sense and other applications. Part constructions range from thick film to wirewound. With multiple mounting options and constructions, you're sure to find the proper High Power resistor required to fit your needs. Adjustable Power Resistors allow resistance to be readily changed.

Many of our High Power resistors can be attached to a heat sink for enhanced power dissipation. Much smaller than standard parts of the same wattage, Heat Sinkable resistors release most of their heat in one plane. The single side is attached to a heat sink, and the heat generated is absorbed. Once the heat is absorbed, it is released into the air or water through a heat sink or chill plate.

**Common applications include:** Power transmission, traction, variable speed drives, power supplies, robotics, motor control, power control devices, current pulse limiters

# HIGH POWER

	Resistor Family	Max Voltage*	Resistance (Ohms)	Watts	Tolerance	Notes
~			0.118Ω	3,021	. 100/	Available for ohmic values othe
STAR.	14984 Series		0.157Ω	3,077	±10% Applies to all	than those listed, mountings, other terminal styles, all stainless frame and terminal
	High Current Round Edgewound	$\sqrt{P \cdot R}$	0.171Ω	2,889	resistances and	
			0.285Ω	2,850	power ratings	construction.
		565	1.0-10kΩ	12		
		625	1.0-25kΩ	25		
		1,625	1.0-100kΩ	50		
	210 Series	2,625	1.0-100kΩ	75	±10%	Other sizes available; also
X	Dividohm® Vitreous Enamel	2,845	1.0-100kΩ	100	Applies to all	available in low cost Centohm or Silicone coating; contact
	Adjustable Power	3,595	1.0-100kΩ	175	resistances and power ratings	Ohmite.
		4,595	1.0-100kΩ	225		
		4,970	1.5-15kΩ	500		
	-	8,900	3.0-27.7kΩ	1,000		
		187	1.0-15kΩ	10		Adjustable versions and other sizes available; consult Ohmite also available in low cost Centohm or Silicone coating; consult Ohmite.
	250 Series	815	1.0-50kΩ	20	±5%	
	'Thin' Stackohm®	281	1.0-10kΩ	30	Applies to all	
	Vitreous Enamel – Power	655	1.0-25kΩ	40	resistances and power ratings	
		1,405	1.0-30kΩ	55		
		565	0.1-51kΩ	12		
	_	625	0.15-100kΩ	25		Non-Inductive versions
		1,625	0.38-260kΩ	50	Under 1Ω: ±10%	
	270 Series	2,845	0.23-101kΩ	100	$1\Omega$ and over: ±5%	available; Other sizes available
	Vitreous Enamel Power	3,595	0.13-101kΩ	175	Applies to all	Also available in low cost Centohm or Silicone coating;
5 m		4,595	0.16-129kΩ	225	resistances and power ratings	Consult Ohmite.
		4,970	0.38-218kΩ	500		
	-	8,900	0.69-392kΩ	1,000		
	280 Series Corrib® Fixed and Adjustable Vitreous Enamel Power	$\sqrt{P \cdot R}$	0.1Ω-63Ω	300	±10%	Also available in low cost Centohm or Silicone coating; Consult Ohmite.

## HIGH POWER (continued)

	Resistor Family	Max Voltage*	Resistance (Ohms)	Watts	Tolerance	Notes	
		200	0.10-2kΩ	3			
		460	0.10-8kΩ	5			
Construction	Audio Gold	1,000	0.10-22kΩ	10	5% std., 1% available		
4000 00D	Resistors	625	0.10-20kΩ	12		Non-inductive versions available	
Aligne finces	Audio Applications	750	0.10-39kΩ	20	Applies to all resistances and		
00017 007220008	Approductions	625	0.10-39kΩ	25	power ratings		
		1,625	0.38-100kΩ	50			
		Round Wire Construction					
		1,400	0.4Ω-250kΩ	72			
	Euro-Power	2,100	0.5Ω-100kΩ	160	Under 1Ω: ±10%	Non-Inductive versions	
	Wirewound	3,300	0.2Ω-125kΩ	280	$1\Omega$ and over: ±5%		
	Vitreous Enamel Power	5,000 Ribbon Wire Construction	0.2Ω-200kΩ	700	Applies to all resistances and	Also available in low cost Centohm or Silicone coating;	
(Construction)		$\sqrt{P \cdot R}$	0.10-18Ω	200	power ratings	Consult Ohmite.	
		$\sqrt{P \cdot R}$	0.22-33Ω	350			
		$\sqrt{P \cdot R}$	0.33-56Ω	1,000			
	HCLB Series Resistor Load Banks, High Current Oval Edgewound	1,000V If mounting is grounded; special higher voltage mounting is available.	0.1Ω-41.3Ω	8kW-24kW	±10%	Choose from four bank wattage with up to thirty-one current ratings per bank.	
	PFE and PFR Series Powr-Rib® Edgewound Edgewound and Round Wire	$\sqrt{P \cdot R}$	0.1Ω-25Ω	700-1,000 (up to 1,600 watts on special order)	±10% std., ±5% available	Designed in both Edgewound and Round Wire formats	
	Power-Mox	20kV	1k-800,000MΩ	25	0.5%, 1%,		
	Series Precision Power	30kV	1.5k-1,000,000MΩ	40	2%, 5%	0.4" diameter ferrule, 0.25"-20 threaded end cap, or radial	
- Andrews	Thick Film High Voltage/High	45kV	2k-1,000,000MΩ	50	(Some tolerances are not available over the entire resistance	bands available	
	Resistance Tubular	60kV	3k-1,000,000MΩ	75	range)		
	<b>SGM Series</b> Stamped Grid Module Resistors	1,000 VAC/ 1,400 VDC	2.7Ω-392Ω	4kW-380kW	±10% std. others on request	Brake resistors are offered as open units or with an enclosure	
	<b>TA Series</b> Power Chip Thick Film on Alumina Substrate	350 VAC, 500 VDC through glass, 1,000 VAC, 1,500 VDC through substrate, not to exceed power rating	0.25Ω-10ΜΩ	3.0-100.0	±1%, ±5%, and ±10%	Other ohmic values than listed available upon request	
	<b>TP Series High</b> <b>Energy</b> Thick Film on Alumina Substrate	350 VAC 500 VDC through glass	10Ω-1ΜΩ	20	±1%, ±5%, and ±10%	Consult factory for other ohmic values	

### HIGH POWER (continued)

	Resistor Family	Max Voltage*	Resistance (Ohms)	Watts	Tolerance	Notes
	<b>TRH Series</b> Thick Film	15kV, not to exceed power rating	$\begin{array}{l} \text{Continuous Power:} \\ 100\Omega-10k\Omega \\ \text{Impulse Energy:} \\ 5\Omega-1k\Omega \\ \text{High Voltage:} \\ 100k-100M\Omega \end{array}$	30	1%, 5%, and 10%	Meets Mil-Std-202 and IEC 61000-4-5
- Jammunda	WLRD6G Series High Current Oval Edgewound	550	0.082-6.13Ω	525-1,750	±10%	Five sizes with up to thirty-one current ratings; special higher voltage mounting available
enning.	<b>WLRH Series</b> Heliohm Wirewound	600	0.25-250Ω	1.0-32.0A Continuous	±10%	45 models ranging from 0.25- 250Ω; Various mounting options

### HEAT SINKABLE HIGH POWER

	Resistor Family	Max Voltage*	Resistance (Ohms)	Wa	atts	Tolerance	Notes
	89 Series	210	0.10-25kΩ	Ę	5	±1% and ±5%	
	Metal-Mite <sup>®</sup> Aluminum Housed	320	0.10-50kΩ	1	0	Applies to	Non-Inductive versions
	Axial Terminal Wirewound, 1%	520	0.010-75kΩ	2	25	all voltage, resistances and	available; Other tolerances available
	Tolerance	1,170	0.005-100kΩ	5	i0	power ratings	
C. C. C.	ARCOL Aluminum Housed HS Aluminum Housed Resistors	(Limiting Element Voltage) 160-2,500	0.005-100kΩ	heat s 25 5-60 v heat s	on std. sink at °C; vith no sink at s <sup>o</sup> C	std. ±5% and ±10% Also available ±1%, ±2% and ±3%	In line with the requirements o MIL 18546 and IEC 115; Custor designs welcome
	ARCOL HS			100% Duty Cycle No Heat Sink	100% Duty Cycle W/ Heat Sink	std. ±5%,±10%, and	Designed to be heat sink- mounted to achieve full
	Series 400-600 HS Aluminum	2,000	3.6-620Ω	80	400	±20% Applies to	commercial wattage;
	Housed Resistors	2,300	5.1-910Ω	100	500	all voltage, resistances &	Wound to maximize High Pulse Capability
		2,800	6.8-1.2kΩ	120	600	power ratings	
3.	ARCOL AP101 Series 100W TO-247 High Power Resistors	700	0.05-10kΩ	case tem	t 25°C operature c mounted	±1%, ±5%, and ±10%	Single screw mounting to heat sink; Non-inductive design
122	ARCOL AP725 Series 20W TO-263 Power Resistor	250	0.02-130kΩ	20 at	25°C	±1%, ±5%,	D2PAK housing; Electrically isolated from backplate; TCR Options ±100 ppm/°C

# HEAT SINKABLE HIGH POWER (continued)

	Resistor Family	Max Voltage*	Resistance (Ohms)	Wa	atts	Tolerance	Notes
	ARCOL AP830 Series 30W TO-220 High Power Resistors	350	0.05-10kΩ	2.25 in free air 30 at 25°C case temperature on heat sink		±0.5% to ±10%	Molded case for protection and easy to mount; Non-inductive design; Electrically isolated case
	ARCOL AP836 Series 35W TO-220 High Power Resistors	350	0.05-10kΩ	2.5 in free air 35 at 25°C case temperature on heat sink		±0.5% to ±10%	Molded case for protection an easy to mount; Non-inductive design; Electrically isolated case
1000	ARCOL AP851 Series 50W TO-220 High Power Resistors	420	1-10kΩ	50 at 2	n free air 5°C case ature on : sink	±0.5% to ±10%	Molded case for protection an easy to mount; Non-inductive design; Electrically isolated case
				No Heat Sink	W/ Heat Sink		
		1,000	2.2-220Ω	75	150		
	ARCOL ARF Series	1,000	3.6-390Ω	100	200	±5% Applies to all voltage, resistances & power ratings	Enhanced power levels can be achieved when heat sink mounted.
	Low Profile	1,500	5.6-560Ω	150	300		
	Wirewound Metal Clad Resistors	1,500	7.5-820Ω	200	400		
		2,000	10-1kΩ	250	500		
		2,000	11-1kΩ	300	600		
	ARCOL FPA600 Series 600W Thick Film Heat Sink Resistors	5,000 VDC	0.5-1ΜΩ	60	00	±5% or ±10%	Partial discharge 4kVrms <10 up to 7kV. Please consult with Ohmite regarding application areas.
	ARCOL TFBR Series Stainless Steel Power Resistors	1,000 VDC	5-680Ω	No Heat Sink2040120	W/ Heat Sink 100 300 900	±10%	Other ohmic values than listed available upon request.
				No Heat Sink	W/ Heat Sink		
		1,000 VAC	1.6-180Ω	45	150	±5%	**DNED 4000/ ED 1000/
775 - 44	ARG Series Wirewound power	1,000 VAC	2.2-240Ω	60	200	Applies to	**PNED=100% ED – load fac = percentual ratio of switch-o
	resistors in Al case	1,500 VAC	4.7-430Ω	70	300	all voltage, resistances &	time against cycle period - typical 120s
	Last	2,000 VAC	6.8-620Ω	80	400	power ratings	, typical 1205
		2,300 VAC	9.1-910Ω	100	500		
		1,000	0.5Ω-18kΩ	50	00	±10%	Thermal cut-off available;
	<b>BA Series</b> Aluminum Cased	Applies to all	1Ω-10kΩ	70	00	Applies to all voltage,	scalable, custom lengths available; custom leads
Capacit	Resistor	resistance ranges and power ratings	1Ω-10kΩ	1,0	)00	resistances & power ratings	available
	<b>IS Series</b> <b>Resistor</b> Ultra Low Profile Power Resistors	300V	5Ω-10kΩ	175, 20 or 2	)0, 250, 270	10%, 20%	Available with fast-on termina or wire leads

# HEAT SINKABLE HIGH POWER (continued)

Resistor Family	Max Voltage*	Resistance (Ohms)	Wa	atts	Tolerance	Notes
<b>Metalohm</b> <b>Series</b> Cold Rolled Steel Encased Wirewound Heat Sinkable Radial Terminal	6-9 Applies to all resistance ranges and power ratings	0.05-6kΩ 1.0-25kΩ 1.0-25kΩ 1.5-47.5kΩ 2.5-81kΩ 4.5-100kΩ	No Heat Sink           20           40           50           60           85	W/ Heat Sink 45 70 70 100 115 150	5%, 10% Applies to all voltage, resistances & power ratings	Noninductive versions (Aryton- Perry windings); Variety of terminal choices
<b>TAH20 Series</b> 20 Watt TO220 Package Thick Film Power	350	0.05Ω-10kΩ	case terr	: 25°C pperature at sink	5% std.	Other ohmic values and 1% tolerance available on request
TAP1K & TAP2K Series High Wattage Heat Sinkable Planar Resistor	2,000 VDC	0.5-1,000Ω	1,000 c	or 2,000	+10% std.	Power rating based on 85°C mounting plate
<b>TAP2K Series</b> Ultra High Power Planar Resistor	5,000 VDC = 3.500VAC RMS (50 Hz)	0.15-6kΩ	2,000 at 125°C bottom case temperature		±5% to ±10%	Higher ohmic values and voltage available upon request
<b>TAP650 Series</b> 650 Watt Heat Sinkable Planar	5,000 VDC	0.25-1MΩ	6!	50	±5% to ±10%	Higher voltage and other ohmic values available upon request
 <b>TAP600 Series</b> 600 Watt Heat Sinkable Planar	5,000 VDC	0.25-100kΩ	60	00	±10% std., 5% available on request	Higher voltage and other ohmic values available upon request
<b>TAP800 Series</b> 800 Watt Heat Sinkable Planar	5,000 VDC	1-10kΩ	81	00	±5% to ±10%	Higher voltage available on request
<b>TBH25 Series</b> 25 Watt TO220 Package Thick Film Power	350	0.1-10kΩ.		: 25°C operature	5%	Other ohmic values available upon request; Anti-static tube packaging available
<b>TCH35 Series</b> 35 Watt TO220 Package Thick Film Power	350	0.05-10kΩ	35 at	: 25°C	±5% std., (1% on request)	Higher ohmic values on request subject to derating
<b>TDH35 Series</b> 35 Watt D2PAK Package Thick Film Power Surface Mount	350	0.05-10kΩ	35 at	: 25°C	±1% to ±10% (0.5% on request)	Other ohmic values on request

# HEAT SINKABLE HIGH POWER (continued)

	Resistor Family	Max Voltage*	Resistance (Ohms)	Wa	ntts	Tolerance	Notes	
	<b>TEH100 Series</b> 100 Watt Thick Film Power Resistors for High Frequency and Pulse Loading Applications	350	0.05-10MΩ	100 a	t 25°C	±1%, ±2%, ±5%, ±10%	Other ohmic values on request	
	<b>TEH140</b> 140W TO-247 Power Resistors	$<$ 500V or $\sqrt{P \cdot R}$	10m-510kΩ	140		±1%, ±5%	Complete thermal conduction and heat dissipation design will be available	
PE	<b>TGH Series</b> 120 and 200W SOT227Package Thick Film Power	500V (1,000V, not to exceed rated wattage using $\sqrt{P \cdot R}$ )	0.1-1ΜΩ	120 c	or 200	±5%	Other tolerances available on request.	
	<b>TGHD Series</b> Chassis Mounting Non-inductive High Power Resistors	E= √ <u>P · R</u> or 1,000V	0.1Ω-51kΩ	10	)0	±5%	100W at flange temperature -55 to +100°C (wire leads) or -5 to +25°C (quick connect)	
CONTRACTOR	<b>TGHG Series</b> Precision Current Sense Resistors	10	0.5m-1Ω	100 at 70°C case temperature		0.5% (0.0005 thru 0.022Ω), 1%, 5%	Other ohmic values on request	
	TGHM Series 300W SOT-227 Quick-Connect High-Power Resistors	2,000 VAC Withstanding voltage	0.1-1ΜΩ	30	00	±5%	Vibration proof design passing IEC 60068-2-6	
PRE	<b>TGHP Series</b> Thick Film SOT227 Package	1,000 VDC	0.25-1kΩ	60	00	±10%	±5% on request; higher voltage on request	
- Paulan - Paulan	<b>TKH45 Series</b> 45W TO-252 Thick Film Resistor	<500V or $\sqrt{P \cdot R}$ P is rated power and R resistance	0.02-510kΩ	4	5	±1%	0.02Ω-0.91Ω resistance available at 5% tol. only.	
				Ultra	Std.			
	TL Series	1,000	0.3-1MΩ	35	27	100/ -+-		
JELLILA	Nodular Heat	2,000	1.0-2MΩ	96	71	<ul> <li>±10% std.</li> <li>Applies to all,</li> </ul>	Special tapped configurations offered to reduce on board	
1	Sinkable Thick	2,500	1.5-3MΩ	155	114	resistances ranges	component count	
10-10-10-10-10-10-10-10-10-10-10-10-10-1	Film Power	2,500	2. <b>0</b> -4MΩ	215	158	and power ratings		
		2,500	2.0-4MΩ	275	202			
	WFH Series	1,200 VAC	0.22-6.8kΩ	9		±5%, ±10%	Multiple resistors in one profile	
	Aluminum Housed	Applies to all	0.47-18kΩ		50 20	Applies to all	possible; Custom wire lengths	
	Wirewound Power	resistances and power ratings	0.82-27kΩ	230 330		resistances and	s and available	

# **HIGH VOLTAGE**

Ohmite's extensive selection of part series for High Voltage applications includes multiple mountings and custom specifications, ensuring you will find the proper High Voltage resistor required to fit your needs.

With the range of custom options available, Ohmite High Voltage resistors fill the need for multiple applications including power supplies, avionics, medical instruments, industrial controls, vacuum and space applications.

	Resistor Family	Max Voltage*	Resistance (Ohms)	Watts	Tolerance	Notes
	100 Series	1,000-3,000	1.0Ω-700ΚΩ	4-15		
11/2	Bulk Ceramic Axial	3,600-9,000	2.0Ω-1ΜΩ	7-25	±5%, ±10%,	Not all sizes available ir
		5,000-15,000	3.0Ω-1ΜΩ	10-36	±20%	all values.
	Lead Resistors	8,800-25,000	4.0Ω-1ΜΩ	16-55		
		375-1,500	1.0Ω-390ΚΩ	1.2-2.5		
		375-1,100	1.0Ω-150ΚΩ	1.6-7		
		500-2,500	1.0Ω-300ΚΩ	2.4-10		
	200 Series	375-1,500	1.0Ω-130ΚΩ	2-8.5	LE0/ 100/	Not all sizes available i
Min	Bulk Ceramic Axial	500-2,500	1.0Ω-190ΚΩ	3-12	±5%, ±10%,	all values.
	Lead Resistors	1,000-3,000	1.0Ω-450ΚΩ	5-18	±20%	all values.
		3,600-9,000	2.0Ω-970ΚΩ	9-31		
		5,000-15,000	2.0Ω-1ΜΩ	13-45		
		8,800-25,000	3.0Ω-1ΜΩ	20-70		
	500 Series	900-8,500	0.2Ω-800Ω	30-150	±5%, ±10%,	
	Non-inductive Bulk	8,500-65,000	5.0Ω-9,200Ω	12-60	±20%, available to ±2% on	Not all sizes available i all values.
	Ceramic Slab Resistors	3,000-22,000	1.2ΚΩ-870ΚΩ	10-48	assemblies	
		1,000	1.0Ω-200Ω	22.5		
		1,000-8,000	1.0Ω-220ΚΩ	15-45		Not all sizes available in all values.
	800 Series	4,000-20,000	1.0Ω-390ΚΩ	30-90	±5%, ±10%, ±20%	
<b>X</b>		4,000-30,000	1.0Ω-390ΚΩ	50-150		
Con and a second	Tubular High Energy	6,000-45,000	1.0Ω-470ΚΩ	60-190		
	Bulk Ceramic	10,000-75,000	1.0Ω-680ΚΩ	90-275		
		16,000-120,000	1.0Ω-1ΜΩ	125-375		
		16,000	1.0Ω-450Ω	750		
		22,000	1.0Ω-600Ω	1,000		
		30,000	5.0Ω–1,200Ω	70		Not all sizes available in
	1000 Series	45,000	6.5Ω–1,900Ω	100	.E0/ .100/	
	Tubular High Energy	75,000	9.0Ω–2,500Ω	150	±5%, ±10%,	
	Bulk Ceramic	120,000	15Ω–3,800Ω	225	±20%	all values.
	·	165,000	20Ω-4,800Ω	300		
		9kVdc	400-10GΩ	3.8		
	ARCOL ARC2	12kVdc	500-15GΩ	5		
	Series	18kVdc	900-20GΩ	7.5	±0.1% to ±10%	Non-Inductive, Thick Film
	High Voltage Precision	24kVdc	1.2k-30GΩ	10	Applies to all	Low TCR
	Resistors	36kVdc	1.7k-30GΩ	12.5	power ratings	
	nesisions	42kVdc	2.6k-30GΩ	15		
		54kVdc	3.2k-30GΩ	17		
	ARCOL ARC3	24kVdc	500-5GΩ	11	_	
	Series	48kVdc	700-10GΩ	23	±0.1% to ±10%	Non-Inductive, Thick Film
	High Voltage Precision	48kVdc	2-10GΩ	54	Applies to all	Low TCR
	Resistors	64kVdc	20-15GΩ	71	power ratings	
3,	HVC Series Precision high-	96kVdc	80-25GΩ	105		
$ \land $		60		50mW	1%-30%	
An a		150	100k-100MΩ	100mW		
1000		400		125mW		Suitable for high vacuum
	value high-voltage	1,000	Applies to all	250mW	Applies to all	applications—no organio
	wraparound chip	3,000	power ratings	1,000mW	power ratings	
Deal		6,000		1,500mW		

# HIGH VOLTAGE (continued)

	Resistor Family	Max Voltage*	Resistance (Ohms)	Watts	Tolerance	Notes
		2.0kV	100-1,000MΩ	0.75		
These	MacroChip Series	5.0kV	200-5,000MΩ	1.50	0.50/ 000/	
the states	High Voltage/High	7.5kV	250-5,000ΜΩ	2.00	0.5%-20%	Contact Ohmite for custon
CHANITE ST	Resistance Precision	10.0kV	1Κ-5,000ΜΩ	2.50	Applies to all	configurations.
to mes	Thick Film Surface	5.0kV	500-5,000MΩ	2.50	power ratings	Gernigurationer
-2	Mount	10.0kV	1K-5,000MΩ	3.25		
		10.067	11X-3,0001012	3.20		
a sure of the second se	Maxi-Mox Series Precision Thick Film Axial Terminal High Voltage/High Resistance	10kV-50kV	250-1ΤΩ	2.0-12.5	0.5%-20%	Silicone or epoxy coating; Non-inductive available
DHNITE SM-SPOEZ DAOB	MC1RD Series SMT-MOX Divider	5kV	1M-5,000MΩ	1.5	0.5%-5%	Contact Ohmite for custon configurations.
TTT -	<b>MC4 Series</b> High Voltage 4-Resistor SMD DIP Package	2,500 VDC	200-5,000MΩ	0.75	5%-20%	Specify up to 4 different resistor value/tolerance combinations and connect them for countless results
	Mini-Mox Series Precision Thick Film Axial Terminal High Voltage/High Resistance	2,500V-7.5kV	500-1TΩ	0.35-1.5	5%-20%	Silicone or epoxy coating; Metal oxide resistive element
	<b>Power-Mox Series</b>	20kV	1k-800,000MΩ	25	0 50/ 10/ 20/ 50/	0.4" diameter ferrule, 0.25"-20 threaded end cap or radial bands available
		30kV	1.5k-1,000,000MΩ	40	0.5%, 1%, 2%, 5%	
	Precision Power Thick	45kV		50	– (Some tolerances are	
	Film High Voltage/High Resistance Tubular		2k-1,000,000MΩ		not available over the	
D	nesistance iupular	60kV	3k-1,000,000MΩ	75	entire resistance range)	
and the second s	<b>RX-1M Hi-Meg</b> Ultra High Resistance High Stability Hermetically Sealed	1.0kV	1M-10,000,000MΩ	0.5 at 25°C	5%-20%	Calibration available
America Sama Herrica Sama Marcal Sama						Multiple taps are provided
	Slim-Mox Series Precision Thick Film Planar	1.5kV to 25kV	100-5,000MΩ	0.25-5.5	5%-20%	on the Slim-Mox RD for use in advanced circuit designs.
		9.4kV	600-10GΩ	3.9		
		13.8kV	500-50GΩ	4.6	0.10%, 0.25%,	
		20kV	400-50GΩ	7.8	0.5%, and 1%	Other tolerances and
	Super Mox Series	30kV	600-50GΩ	11.7		ohmic values available or
	High Voltage	40kV	800-50GΩ	12.5	Applies to all voltage,	request.
		50kV	1M-50GΩ	15.5	_ resistances & power ratings	1040000
		60kV				
			1M-50GΩ	19.4		
		3kV	4	.5	-	
	TFS Series	3.5kV	4	.5	1%, 2%, 5%, 10%	Custom dimensions,
CHMMTE 001	Surge Capable Thick	4kV	- 100-100kΩ -	.75	Applies to all voltage,	values, tolerances and
TESO I	Film Non Inductive	7kV	100 100K12	1	resistances & power	characteristics available.
		7kV		1.5	ratings	
		11kV		2		
	<b>TRH Series</b> Thick Film	15kV not to exceed power rating	Continuous Power: 100-10kΩ Impulse Energy: 5-1kΩ High Voltage:	30	1%, 5%, 10%	Meets Mil-Std-202 and IEC 61000-4-5

### **SURGE/HIGH ENERGY**

Need resistive products that can handle transients, overloads, in-rush, and other high-energy events? Ohmite has you covered. From composition to unique thick film designs, Ohmite offers multiple product series that can take thousands of Joules. Axial, Radial and Surface Mount designs are available to suit all needs and energy levels.

**Common applications include:** Motor starting, dynamic braking, medical surge, power supplies, UPS, power conversion, inrush current limiting

# SURGE/HIGH ENERGY

Bulk Caramic Axial Lead         5,000-15,000         3,00-1M0         10-36         ±20%         in all values.           2005 Gries         375-15,000         1,00-300K0         12-2.2.5         375-11,00         1,00-300K0         1.6-7           2005 Gries         Bulk Caramic Axial Lead         500-2,500         1,00-300K0         2.4-10         ±5%, ±10%, ±20%         1.6-7           2005 Gries         Bulk Caramic Axial Lead         500-2,500         1,00-150K0         2.4-10         ±5%, ±10%, ±20%         1.0-130K0         2.8-5         5.00-15,000         2.0-1M0         13-45         ±5%, ±10%, ±20%         1.0-130K0         2.8-5         5.00-15,000         2.0-2-1M0         13-45         ±5%, ±10%, ±20%         Not all sizes available to ±2% on assemblies         1.00-450K0         1.0-20K0         2.5%, ±10%, ±20%         Not all sizes available to ±2% on assemblies         1.00-8000         1.00-20K0         2.5%, ±10%, ±2%, ±10%, ±2%, ±10%, ±0%, ±0%         1.00-8000         1.00-20K0         2.5%, ±10%, ±2%, ±10%,		Resistor Family	Max Voltage*	Resistance (Ohms)	Watts	Tolerance	Notes
Buik Caramic Axial Lead Resistors         3.000/9,000         3.00/1400         17-25 (5.000-15,000)         ±5%, ±10%, ±20%         What all sizes available in all values.           200 Series Buik Coramic Axial Lead Resistors         3.00-2400         1.00-390(C)         1.22.5         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%         Not all sizes available in all values.           200 Series Buik Coramic Axial Lead Resistors         3.00-2000         2.00-970(C)         9.31         ±5%, ±10%, ±20%         1.00-310(C)         ±5%, ±10%, ±20%         Not all sizes available in all values.           500 Series For Amidetive Buik Ceramic Stab Resistors         8.00-25,000         3.00-1MQ         200-770         ±5%, ±10%, ±20%, available to ±2%, on assemblies         Not all sizes available in all values.           800 Series Tobular High Energy Buik Ceramic         1.000         1.00-450(C)         15.45         Not all sizes available in all values.           1.000         1.00-700(0         22.5         1.000         1.00-700(0         22.5         1.000-10.0-390(C)         ±5%, ±10%, ±20%         Not all sizes available in all values.           1.000         1.00-75000         1.00-4500(7)         10.40-4500         50-52         ±20%         ±20%         ±20%         ±20%         ±20%         ±20%         ±20%         ±20%         ±20%         ±20%         ±10%         ±20%		400.0	1,000-3,000	1.0Ω-700ΚΩ	4-15		
Book         Book <th< td=""><td></td><td></td><td>3,600-9,000</td><td>2.0Ω-1ΜΩ</td><td>7-25</td><td>±5%, ±10%,</td><td rowspan="2">Not all sizes available in all values.</td></th<>			3,600-9,000	2.0Ω-1ΜΩ	7-25	±5%, ±10%,	Not all sizes available in all values.
88.00 - 25,000         4.00 - 1MΩ         16-55           375 - 1,500         1.00-390KΩ         1.2-2.5           375 - 1,00         1.00-150KΩ         1.6-7           500 Series         500 - 2500         1.00-190KΩ         2.4-10           Buk Ceramic Axial Lead         500 - 2500         1.00-190KΩ         3.12           1,000 - 3,000         1.00-450KΩ         5-18         ±5%, ±10%, ±20%           1,000 - 3,000         2.0.970KΩ         9.31         ±5%, ±10%, ±20%, available           500 Series         900-8,500         0.20-800Ω         30-150         ±2%, available           0.00 - 10,000         2.00-1MΩ         12-60         ±5%, ±10%, available         ±2%, available           0.00 - 10,000         1.00-390KΩ         30-150         ±2%, available         to tal sizes available           0.00 - 10,000         1.00-200Ω         22.5         1,000-8,000         1.00-390KΩ         30-90           1,000 - 3,000         1.00-390KΩ         50-150         60-150         4.00-190         ±2%, ±10%, ±20%         ±5%, ±10%, ±20%           1,000-8,000         1.00-390KΩ         50-150         600-120,000         1.00-390KΩ         30-90           1,000-8,000         1.00-430Ω         100         1.00-450Ω         7			5,000-15,000	3.0Ω-1ΜΩ	10-36	±20%	
200 Series Bulk Ceramic Axial Lead Resistors         375-1.100         1.00-150K0 2.4-10         1.6-7 3.000K0         2.4-10	-		8,800-25,000	4.0Ω-1ΜΩ	16-55		
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$			375-1,500	1.0Ω-390ΚΩ	1.2-2.5		
200 Series Buk Caramic Axial Lead Resistors         375-1,500         1.00-130KΩ         2-8.5         ±5%,±10%, ±20%         ±10%, ±20%         Not all sizes available in all values.           000 Series Buk Caramic Axial Lead Resistors         3600-9,000         2.00-1MΩ         13.45         ±5%,±10%, ±20%         ±5%,±10%, ±20%, available to ±2%, on assemblies         Not all sizes available in all values.           500 Series Non-inductive Bulk Caramic         900-8,500         0.20-800Ω         30-150         ±5%,±10%, ±20%, available to ±2% on assemblies         Not all sizes available in all values.           8.00-25,000         1.00-200Ω         1.2K-870KΩ         10-48         assemblies         Not all sizes available to ±2% on assemblies           8.00-25,000         1.00-200Ω         1.00-200Ω         1.00-300KΩ         30-93         Auo12/25/20         Not all sizes available to ±2% on assemblies         Not all sizes available to ±2% on assemblies         Not all sizes available in all values.           8.00-25,000         1.00-470KΩ         600-190         1.00-480Ω         30-93         Auo12/25/25/25/25/25/25/25/25/25/25/25/25/25		_	375-1,100	1.0Ω-150ΚΩ	1.6-7		
Buk Caramic Axial Lead Resistors         500-2,500         1.0Ω-190KΩ         3-12         ±9%, ±10%, ±20%         Not all sizes available in all values.           Store Series Nor-inductive Bulk Ceramic Slab Resistors         500 Series Non-inductive Bulk Ceramic Slab Resistors         900-8,500         0.2.0.°+MΩ         13-45         ±5%, ±10%, ±20%, available to ±2% on assemblies         Not all sizes available in all values.           Store Series Nor-inductive Bulk Ceramic Slab Resistors         900-8,500         0.2.0.°+MΩ         10-48         ±5%, ±10%, ±20%, available to ±2% on assemblies         Not all sizes available in all values.           Motel High Energy Bulk Ceramic         1,000         1.00-200Ω         12-60         ±5%, ±10%, ±20%         Not all sizes available in all values.           Motel High Energy Bulk Ceramic         1,000-10.00-200Ω         12.460         15-45         Not all sizes available in all values.           Motel High Energy Bulk Ceramic         1,000-10.00-200Ω         1.00-470KΩ         15-45         Not all sizes available in all values.           Motel High Energy Bulk Ceramic         1000 Series Tubular High Energy Bulk Ceramic         1000-470KΩ         100-470KΩ         100-470KΩ         45,000         100           Motel High Energy Bulk Ceramic         1000         5Ω-1.200Ω         70         45,000         100         100           Motel High Energy Bulk Ceramic				1.0Ω-300ΚΩ	2.4-10		
Besistors         1.000-3.000         1.00-450K0         5-18           3,600-9,000         2.00-970K0         9-31           5.000-15000         2.00-1M0         13-45           8,800-25,000         3.01-1M0         20-70           Solo Series         900-8,500         0.20-8000         30-150         ±5%, ±10%, ±20%, available to ±2% on assemblies           Non-inductive Buk Ceramic Slab Resistors         1,000         1.00-22000         12-60         ±5%, ±10%, ±20%, available to ±2% on assemblies           800 Series         1,000         1.00-2000         22.5         1.000-8,000         1.00-2000         22.5           1,000-20,000         1.00-390K0         30-90         4.000-30,000         1.00-390K0         50-150           1,000-70,000         1.00-390K0         50-150         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%           1000 Series         1000 -20,000         1.00-4500         750         ±20%         ±5%, ±10%, ±20%           1000 Series         1000 -20,000         1.00-4500         700         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%           1000 Series         1000 - 50,000         1.00-2000         150         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%           1000 Series         1000 - 00,00         1.00-1M0         1		200 Series	375-1,500	1.0Ω-130ΚΩ	2-8.5	1.50/ 100/	Not all sizes available
Heisistors         1,000-3,000 3,6009-9,000 2,00-970KΩ         9-31 9-31 9-31 9,000-3,000         1,00-450KΩ 2,00-970KΩ         5-18 9-31 9-31 9-31         Note (1,00)-3,000 3,000-20,000         1,00-450KΩ 2,00-970KΩ         5-18 9-31         Note (1,00)-3,000         1,00-450KΩ 2,00-970KΩ         5-18 9-31         Note (1,00)-3,000         1,00-450KΩ 2,00-970KΩ         9-31 9-31         Note (1,00)-3,000         1,00-450KΩ 3,00-22,000         1,00-450KΩ 12,KΩ-870KΩ         10-428 10-42% or (10,02,2000         1,00-450KΩ 10-42% or (10,00-20,000         1,0-450KΩ 10,00-20,000         1,0-450KΩ 10,00-30,000         1,0-450KΩ 10,00-20,000         1,0-450KΩ 10,00-30,000         1,0-450KΩ 10,00-30,000         1,0-450KΩ 10,00-30,000         1,0-450KΩ 10,0-27,50         1,0-470KΩ 10,00-470KΩ         60-190 60-190         1,45%, ±10%, ±20%         Not all sizes available in all values.           Wor all sizes available for the rame         1,00-4500Ω         1,00-470KΩ         60-190         1,00-470KΩ         60-190         1,00-470KΩ         60-190         1,00-470KΩ         60-190         1,00-470KΩ         1,00-100         1,00-470KΩ         1,00-100         1,00-470KΩ         1,00-100         1,00-470KΩ         1,00-470KΩ         1,00-470KΩ         1,00-100         1,00-470KΩ         1,00-100         1,00-470KΩ         1,00-100         1,00-100         1,00-100         1,00-10         1,00-10         1,00-10         1,00-10         1,00-10	11/2		500-2,500	1.0Ω-190ΚΩ	3-12		
5,000-15,000         2,00-1MΩ         13-45           8,800-25,000         3,00-1MΩ         20-70           S00 Series         900-8,500         0,20-800Ω         30-150         ±5%, ±10%, ±20%, available to ±2% on assemblies           Non-inductive Bulk Ceramic Slab Resistors         3,000-22,000         1,2K0-870KΩ         10-48         assemblies           3,000-22,000         1,00-200Ω         22.5         1,000         1,00-200Ω         22.5           1,000-8,000         1,00-200Ω         10.0-200Ω         25.5         4,000-20,000         1,00-20ΩΩ           1,000-8,000         1,00-20ΩΩ         1,00-20ΩΩ         30-90         4,000-20,000         1,00-20ΩΩ           4,000-20,000         1,0Ω-230KΩ         30-90         4,000-20,000         1,0Ω-230KΩ         30-90           4,000-20,000         1,0Ω-450Ω         750         16,000         1,0Ω-450Ω         750           16,000         1,0Ω-450Ω         750         16,000         1,0Ω-450Ω         750           1000 Series         1000 Series         45,000         6,5Ω-1,90ΩΩ         100         ±5%, ±10%, ±20%           120,000         1,ΩΩ-450Ω         750         150         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%           1000 Series         1000-15ΩΩ<		Resistors	1,000-3,000	1.0Ω-450ΚΩ	5-18	12070	
500 Series Non-inductive Bulk Caramic Slab Resistors         900-8,500         3.0Ω-1MΩ         20-70         ±5%, ±10%, ±20%, available in all values.         Not all sizes available in all values.           800 Series Non-inductive Bulk Caramic Slab Resistors         1,000         1.0Ω-200Ω         22.5         ±5%, ±10%, ±20%, available in all values.         Not all sizes available in all values.           800 Series Tubular High Energy Bulk Caramic         1,000         1.0Ω-200Ω         22.5         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%         Not all sizes available in all values.           800 Series Tubular High Energy Bulk Caramic         1,000         1.0Ω-300Ω         1.0Ω-300Ω         22.5         1.000-80.00         1.0Ω-30.90           10,000-75,000         1.0Ω-470KΩ         60-190         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%           1000 Series Tubular High Energy Bulk Caramic         1000 Series Tubular High Energy Bulk Caramic         75,000         9.0Ω-2,500Ω         1.00           120,000         1.5Ω-3,800Ω         225         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%         ±6% available in low cost Caramic           280 Series Enamel Power         200         1.0-5ΩΩ         300         ±10%         Also available in low cost Caramic Coating, Consult Ohmi in all values.           30 Series High Energy Wirewound Avial Terminal/Surkable Multing         200 <td></td> <td></td> <td>3,600-9,000</td> <td>2.0Ω-970ΚΩ</td> <td>9-31</td> <td></td> <td></td>			3,600-9,000	2.0Ω-970ΚΩ	9-31		
500 Series Non-inductive Bulk Ceramic Slab Resistors         900-8,500         0.2Ω-800Ω         30-150         ±5%, ±10%, ±20%, available to ±2% on assemblies         Not all sizes available in all values.           800 Series Tubular High Energy Bulk Ceramic         1,000         1.0Ω-200Ω         22.5         1,000-8,000         1.0Ω-390KΩ         30-90         4,000-30,000         1.0Ω-390KΩ         30-90         4,000-30,000         1.0Ω-390KΩ         30-90         4,000-30,000         1.0Ω-390KΩ         60-190         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%         Not all sizes available in all values.           800 Series Tubular High Energy Bulk Ceramic         6,000-45,000         1.0Ω-450Ω         750         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%         101 values.           1000 Series Tubular High Energy Bulk Ceramic         45,000         6,5Ω-1,900Ω         100         100         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%         10% contaitable in all values.           280 Series Coritb <sup>®</sup> Fixed and Adjustable Vitreous Enamel Power         √P · R         0.1-63Ω         300         ±10%         Also available in low cost Centohm or Silico coating. Consult Ohmi in all values.           30 Series High Energy Wirewound Avial Terminal/Surkable Mount/Heat Sinkable         460			5,000-15,000	2.0Ω-1ΜΩ	13-45		
Source Services Non-inductive Bulk Ceramic Slab Resistors         8,500-65,000         5.0Ω-9,200Ω         12-60         ±20%, available to ±2% on assemblies         Not all sizes available in all values.           800 Series Tubular High Energy Bulk Ceramic         1,000         1.0Ω-220ΩΩ         12-60         ±20%, available to ±2% on assemblies         Not all sizes available in all values.           800 Series Tubular High Energy Bulk Ceramic         1,000         1.0Ω-220KΩ         15-45         4,000-20,000         1.0Ω-390KΩ         30-90           4,000-30,000         1.0Ω-470KΩ         60-190         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%           10,000 Series Tubular High Energy Bulk Ceramic         30,000         5.0Ω-1,20ΩΩ         70         45,000         6.5Ω-1,90ΩΩ         100           75,000         1.0Ω-680KΩ         90-275         16,000         1.0Ω-470KΩ         60-190         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%         Not all sizes available in all values.           1000 Series Tubular High Energy Bulk Ceramic         75,000         9.0Ω-2,500Ω         150         ±5%, ±10%, ±20%			8,800-25,000	3.0Ω-1ΜΩ	20-70		
Non-Inductive Burk Ceramic Slab Resistors         3,000-22,000         1.2KΩ-870KΩ         10-48         to ±2% on assemblies         in all values.           3,000-22,000         1.2KΩ-870KΩ         10-48         assemblies         in all values.           3,000-22,000         1.2KΩ-870KΩ         10-48         assemblies         in all values.           1,000         1.0Ω-220KΩ         15-45         4.000-30,00K         30-90         in all values.           4,000-30,000         1.0Ω-390KΩ         30-90         1.0Ω-390KΩ         50-150         5.000         ±5%, ±10%, ±20%         in all values.           10,000-75,000         1.0Ω-470KΩ         60-190         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%         in all values.           10,000-75,000         1.0Ω-450Ω         750         in all values.         in all values.           10,000 Series         10,000         1.0Ω-60ΩΩ         1,000         ±20%         Not all sizes availablin in all values.           1000 Series         1000 Series         30,000         5.0Ω-1,20ΩΩ         70         ±20%         ×10%, ±20%         Not all sizes availablin in all values.           1000 Series         1000 Series         10,000         1.0Ω-60ΩΩ         1,000         100         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%         ±5%, ±10%,		500 Series	900-8,500	0.2Ω-800Ω	30-150		Net ell sizes eusileble
800 Series         1,000         1.2K1-870KD         10-48         assemblies           With the series         1,000         1.00-2000         22.5         1,000-8,000         1.00-200         22.5           1,000-8,000         1.00-390KΩ         30-90         1.00-390KΩ         30-90         4.000-20.000         1.00-390KΩ         30-90           Vibular High Energy Bulk Ceramic         6,000-45,000         1.00-390KΩ         60-190         ±5%, ±10%, ±20%         ±5%, ±10%, ±20%         101 values.           1000 Series         10,000-75,000         1.00-470KΩ         60-190         ±5%, ±10%, ±20%         101 values.           1000 Series         10,000-75,000         1.00-1MΩ         125-375         16,000         1.00-300Ω         750           22,000         1.00-600Ω         1,000         1.00-450Ω         750         22,000         1.00-800Ω         1000           1000 Series         1000 6.5Ω-1,200Ω         70         45,000         6.5Ω-1,20ΩΩ         70         ±5%, ±10%, ±20%         Not all sizes available in law laues.           120,000         15Ω-3,800Ω         225         165,000         20Ω-4,800Ω         300         ±10%         Also available in low cost Centohm or Silico coating; Consult Ohmi coating; Consult Ohmi coating; Consult Ohmi coating; Consult Ohmi coating; Consult Oh			8,500-65,000	5.0Ω-9,200Ω	12-60		
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		Ceramic Slab Resistors				assemblies	
			1,000	1.0Ω-200Ω	22.5		
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$			1,000-8,000	1.0Ω-220ΚΩ	15-45		Not all sizes available in all values.
$ \begin{array}{ c c c c c c } \hline \begin{tabular}{ c c c c c c } \hline \begin{tabular}{ c c c c c c c } \hline \begin{tabular}{ c c c c c c c c c c c c c c c c c c c$			4,000-20,000	1.0Ω-390ΚΩ	30-90		
$\frac{1001 \text{ High Energy Bulk}}{\text{Ceramic}}  \frac{6,000-45,000}{10,000-75,000}  \frac{1.0\Omega-470\text{ K}\Omega}{10,000-75,000}  \frac{600-190}{10,00-680\text{ K}\Omega}  \frac{90-275}{90-275} \\ \hline 16,000-120,000 & 1.0\Omega-450\Omega & 750 \\ \hline 16,000 & 1.0\Omega-450\Omega & 750 \\ \hline 22,000 & 1.0\Omega-600\Omega & 1,000 \\ \hline 1000 \text{ Series} \\ \hline 120,000 & 15\Omega-3,800\Omega & 225 \\ \hline 165,000 & 20\Omega-4,800\Omega & 300 \\ \hline \\$	- Alexandre	800 Series	4,000-30,000	1.0Ω-390ΚΩ	50-150		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		Tubular High Energy Bulk	6,000-45,000	1.0Ω-470ΚΩ	60-190		
$\frac{16,000}{22,000} & 1.0\Omega-450\Omega & 750 \\ \hline 22,000 & 1.0\Omega-600\Omega & 1,000 \\ \hline 30,000 & 5.0\Omega-1,200\Omega & 70 \\ \hline 45,000 & 6.5\Omega-1,900\Omega & 100 \\ \hline 45,000 & 9.0\Omega-2,500\Omega & 150 \\ \hline 120,000 & 15\Omega-3,800\Omega & 225 \\ \hline 165,000 & 20\Omega-4,800\Omega & 300 \\ \hline \\$		Ceramic	10,000-75,000	1.0Ω-680ΚΩ	90-275	120 /0	
$\frac{22,000}{30,000} \frac{1.0\Omega-600\Omega}{5.0\Omega-1,200\Omega} \frac{1,000}{70}$ $\frac{30,000}{5.0\Omega-1,200\Omega} \frac{5.0\Omega-1,200\Omega}{70}$ $\frac{30,000}{5.0\Omega-1,200\Omega} \frac{70}{100}$ $\frac{45,000}{5.0\Omega-1,900\Omega} \frac{100}{100}$ $\frac{150,500}{120,000} \frac{150}{150} \frac{225}{165,000} \frac{225}{165,000}$ $\frac{280  Series}{Corrib^{\circ}  Fixed  and}$ $\frac{\sqrt{P \cdot R}}{100} \frac{1.01-63\Omega}{1.0-150\Omega} \frac{300}{300}$ $\frac{100}{\pm 10\%} \frac{10\%}{10\%} \frac{10\%}{10\%}$ $\frac{30  Series}{10\%} \frac{200}{1.00} \frac{3}{1.0-150\Omega}$ $\frac{30  Series}{10\%} \frac{200}{100} \frac{3}{1.0-150\Omega}$ $\frac{30  Series}{10\%} \frac{200}{10\%} \frac{3}{1.0-150\Omega}$ $\frac{30  Series}{10\%} \frac{1.000}{10} \frac{1.0-150\Omega}{10} \frac{10}{25}$ $\frac{5\%}{10\%} \frac{5\%}{10\%} 5\%$			16,000-120,000	1.0Ω-1ΜΩ	125-375		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			16,000	1.0Ω-450Ω	750		
1000 Series Tubular High Energy Bulk Ceramic $45,000$ $6.5\Omega-1,900\Omega$ $100$ $9.\Omega-2,500\Omega$ $\pm 5\%, \pm 10\%, \pm 20\%$ Not all sizes availabl in all values.120,000 $15\Omega-3,800\Omega$ $225$ $\pm 20\%$ $\pm 20\%$ $\pm 20\%$ $\pm 20\%$ $\pm 20\%$ $\pm 20\%$ 120,000 $15\Omega-3,800\Omega$ $225$ $165,000$ $20\Omega-4,800\Omega$ $300$ $\pm 10\%$ Also available in low cost Centohm or Silico coating; Consult Ohmit280 Series Corrib® Fixed and Adjustable Vitreous Enamel Power $\sqrt{P \cdot R}$ $0.1-63\Omega$ $300$ $\pm 10\%$ Also available in low cost Centohm or Silico coating; Consult Ohmit30 Series High Energy Wirewound Axial Terminal/Surface Mount/Heat Sinkable Bodroging $200$ $460$ $1.0-150\Omega$ $3$ $5\%$ Standard offerings in three package types: axial, SMD, and heat sinkable. Other types of box out due request			22,000	1.0Ω-600Ω	1,000		
Toto of High Tubular High Energy Bulk CeramicToto of High Energy Bulk CeramicNot all sizes available in all values.Tubular High Energy Bulk Ceramic $75,000$ $9.0\Omega-2,500\Omega$ $150$ $\pm 5\%, \pm 10\%, \pm 20\%$ Not all sizes available in all values. <b>280 Series</b> Corrib® Fixed and Adjustable Vitreous Enamel Power $\sqrt{P \cdot R}$ $0.1-63\Omega$ $300$ $\pm 10\%$ Also available in low cost Centohm or Silico coating; Consult Ohmit $1,000$ <b>30 Series</b> High Energy Wirewound Axial Terminal/Surface Mount/Heat Sinkable $200$ $3$ $3$ Standard offerings in three package types: axial, SMD, and heat sinkable. Other types of be quoted on rouse $5\%$ Standard offerings in three package types: axial, SMD, and heat sinkable. Other types of be quoted on rouse			30,000	5.0Ω–1,200Ω	70		
Tubular High Energy Bulk Ceramic $75,000$ $9.0\Omega-2,500\Omega$ $150$ $\pm 5\%, \pm 10\%, \pm 10\%, \pm 20\%$ Not all sizes available in all values.120,000 $15\Omega-3,800\Omega$ $225$ $\pm 20\%$ $\pm 20\%$ $165,000$ $20\Omega-4,800\Omega$ $300$ 280 Series Corrib® Fixed and Adjustable Vitreous Enamel Power $\sqrt{P \cdot R}$ $0.1-63\Omega$ $300$ $\pm 10\%$ Also available in low cost Centohm or Silico coating; Consult Ohmit $1,000$ 30 Series High Energy Wirewound Axial Terminal/Surface Mount/Heat Sinkable $200$ $3$ $300$ $\pm 10\%$ Standard offerings in three package types: axial, SMD, and heat sinkable. Other types of be quoted on rouse $5\%$ Standard offerings in three package types: axial, SMD, and heat sinkable. Other types of be quoted on rouse		1000 Series	45,000	6.5Ω–1,900Ω	100	50/ 400/	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			75,000	9.0Ω-2,500Ω	150		
$\begin{array}{ c c c c c c c } \hline & \textbf{280 Series} \\ \hline Corrib^{\odot} \ Fixed and \\ \hline Adjustable \ Vitreous \\ Enamel \ Power \end{array} & \hline & \sqrt{P \cdot R} & 0.1-63\Omega & 300 & \pm 10\% & Also available in low \\ \hline cost \ Centohm \ or \ Silico \\ \hline coating; \ Consult \ Ohmin \\ \hline cost \ Centohm \ or \ Silico \\ \hline coating; \ Consult \ Ohmin \\ \hline cost \ Centohm \ or \ Silico \\ \hline coating; \ Consult \ Ohmin \\ \hline \\ \textbf{Multiple} \ Fixed \ and \\ \hline Also available in low \\ \hline cost \ Centohm \ or \ Silico \\ \hline coating; \ Consult \ Ohmin \\ \hline \\ \textbf{Multiple} \ Fixed \ and \\ \hline \textbf{Multiple} \ and \\ \hline \textbf{Multiple} \ Fixed \ and \\ \hline \textbf{Multiple} \ and \ and \\ \hline \textbf{Multiple} \ and \ and \\ \hline \textbf{Multiple} \ and \ and \ and \\ \hline \textbf{Multiple} \ and \ and \ and \ an$		Ceramic	120,000	15Ω–3,800Ω	225	±20%	In all values.
$\begin{array}{ c c c c c }\hline & Corrib^{\circ} \ Fixed and \\ Adjustable \ Vitreous \\ Enamel \ Power \end{array} & \begin{array}{ c c c } \sqrt{P \cdot R} & 0.1-63\Omega & 300 & \pm 10\% & \begin{array}{ c c } Also \ available \ in \ low \ cost \ Centohm \ or \ Silico \ coating; \ Consult \ Ohmit \ Dent \ Consult \ Ohmit \ Dent \ Den$			165,000		300		
Subscripts4605Standard offerings in three package types: axial, SMD, and heat sinkable. Other types of be quoted on requestStandard offerings in three package types: axial, SMD, and heat sinkable. Other types of be quoted on request5%Standard offerings in three package types: axial, SMD, and heat sinkable. Other types of be quoted on request		Corrib <sup>®</sup> Fixed and Adjustable Vitreous	$\sqrt{P \cdot R}$	0.1-63Ω	300	±10%	Also available in low cost Centohm or Silicone coating; Consult Ohmite.
High Energy Wirewound Axial Terminal/Surface Mount/Heat Sinkable4605three package types: axial, SMD, and heat 520Solution1,0001.0-150Ω105%axial, SMD, and heat sinkable. Other types of solution on request		30 Sarias	200		3		Standard offorings in
Axial Terminal/Surface1,0001.0-150Ω105%axial, SMD, and heatMount/Heat Sinkable5202525be guided on request	1. 1.		460		5		
Mount/Heat Sinkable 520 25 sinkable. Other types of bo guided on request				1.0-150Ω	10	5%	
Packaging baquated on request							sinkable. Other types can
		Packaging	200		3	-	

# SURGE/HIGH ENERGY (continued)

	Resistor Family	Max Voltage*	Resistance (Ohms)	Watts		Tolerance	Notes
							Joules
	A Series	1,000	3.3 to 10kΩ	2	.0	±10% std.	250
	PulsEater® Ceramic	1,500	4.7 to 15kΩ	2	.5	Applies to all	400
	Composition Available in E12	1,000	1.0 to 3.3kΩ	3	.5	voltage, resistances	700
	Ohmic values	2,000	2.2 to 6.8kΩ		.5	& power ratings	1,400
		2,500	1.5 to 4.7kΩ	5	.5		2,800
		Max Working Voltage: 150-500V					
	<b>AS Series</b> Anti-surge Thick Film	Max Overload Voltage: 300-500V	1-10MΩ	0.33-1.5	at 70°C	±5% std.; ±10% and ±20%	Follows the IEC 61000-4-5
	Chip Resistors	Dielectric Withstanding Voltage: 500V				available	120 01000-4-3
1	<b>EY Series</b> Ceramic Composition 10% Tolerance	550	10-390kΩ	2.5 at	: 25°C	±10%	Joules Max: 400
				at 25°C	at 70°C		
	<b>G Series</b> Capacitor Discharge	685	1-82kΩ	10	8.5	±1%, ±2%, ±5%, ±10%	IEC 115-1 Reference Standard
	& Symmetry	940	1-120kΩ	13	11	±070,±1070	
	MOX500 Series Epoxy Molded, Metal	RCWV or 1,000V,	Metal Glaze: 1.5k-5MΩ		25°C		Meets Mil-Std-202 and IEC 61000-4-5 up to 2kV
- Summer	Glaze-Metal Oxide Resistors	whichever lesser	Metal Oxide: 15-<1.5kΩ		70°C	1%, 2%, 5%	
N/S	<b>OD/OF/OA Series</b> Little Demon® Carbon	250	2.2-5.6MΩ	0.25		±5%, ±10% Applies to all	OD/OF Series available in E24 values; E12 values above 100kΩ
	Composition Molded	350	2.2-20MΩ	0.50		voltage, resistances & power ratings	
				at 7	0°C:	±10% std.	Joules Max:
	OX/OY Series	300	3.3-100kΩ	1		Applies to all	50
Till	Ceramic Composition	400	3.3-1MΩ		2	voltage, resistances & power ratings	80
			0.0 11112				
		3kV		5 0.5 0.75			Joules: 3.0 - 11.0 Custom dimensions,
		3.5kV	400 400 0				
CHANTE OJ	<b>TFS Series</b> Surge Capable Thick	4kV	100-100kΩ			1%, 2%,	
TESO T	Film Non Inductive	7kV	Applies to all power ratings		1	5%, 10%	values, tolerances and characteristics available
		7kV		1	.5		
		11kV			2		
	<b>TP Series High</b> <b>Energy</b> Thick Film on Alumina Substrate	350 VAC 500 VDC through glass	10-1MΩ	2	0	±1%, ±5%, ±10%	Joules: 100 Consult factory for other ohmic values
	<b>TRH Series</b> Thick Film	15 kV, not to exceed power rating	Continuous Power: 100-10kΩ Impulse Energy: 5-1kΩ	3	0	1%, 5%, 10%	Meets Mil-Std-202 and IEC 61000-4-5
Buun . Buun			High Voltage: 100k-100ΜΩ				

# **HIGH CURRENT/BRAKING**

Ohmite understands the demand for high current and braking applications. We provide quality high current products for load testing and dynamic braking resistors in the transportation and semiconductor industries. Thanks to the products' modular and scalable designs, customers can confidently find the proper high current/braking resistor required to fit their needs for motor deceleration and other applications.

Our high current resistors cover applications ranging from standard current loads to motor braking for trains and elevators. Other typical applications include: battery testing, current detection in precise power sources, constant current sources, industrial power conversion circuits, HEVs, fuel cells and constant electronic loads.

# HIGH CURRENT/BRAKING

	Resistor Family	Max Voltage*	Max Current (Amp)	Resistance (Ohms)	Watts	Tolerance	Notes
			160	0.118Ω	3,021		
	14984 Series High Current		140	0.157Ω	3,077	±10% Applies to all	Available for ohmic values other than those listed,
	Round Edgewound	$\sqrt{P \cdot R}$	130	0.171Ω	2,889	resistance ranges and power ratings	mountings, other terminal styles, all stainless frame and terminal construction.
	-		100	0.285Ω	2,850	-	
	<b>280 Series</b> Corrib <sup>®</sup> Fixed and Adjustable Vitreous Enamel Power	$\sqrt{P \cdot R}$	$\sqrt{\frac{p}{R}}$	0.1-63Ω	300	±10%	Also available in low cost Centohm or Silicone coating; Consult Ohmite.
				0.5-18kΩ	500		The 1 st 10 st 11 st
	<b>BA Series</b> Aluminum Cased Resistor	1,000	$\sqrt{\frac{p}{R}}$	1-10kΩ	700	+ <b>10%</b> Applies to all resistance ranges and power ratings	Thermal cut-off available; scalable, custom lengths available; custom leads available
- Alanta	nesistor			1-10kΩ	1,000		
		Round Wire Construction					Non-Inductive versions available; Other sizes available; Also available in
		1,400		0.4-250kΩ	72	Under 1Ω: ±10%	
		2,100	$\overline{p}$	0.5-100kΩ	160		
	Euro-Power	3,300	$\sqrt{\frac{p}{R}}$	0.2-125kΩ	280		
	<b>Wirewound</b> Vitreous Enamel	5,000	-	0.2-200kΩ	700	1Ω and over: ±5% Applies to all	
J.	Power	Ribbon Wire Construction				resistance ranges and power ratings	low cost Centohm or Silicone coating; Consult Ohmite.
		$\sqrt{P \cdot R}$		0.10-18Ω	200	powerratings	country, consult on mite.
		$\sqrt{P \cdot R}$	$\sqrt{\frac{p}{R}}$	0.22-33Ω	350	-	
		$\sqrt{P \cdot R}$	$\nabla K$	0.33-56Ω	1,000	-	
	HCLB Series Resistor Load Banks, High Current Oval Edgewound	1,000V if mounting is grounded; Special higher voltage mounting is available.	23.5-285	0.1-41.3Ω	8kW- 24kW	±10%	Choose from four bank wattages with up to thirty-on current ratings per bank.

\*Maximum voltage is based on Ohm's Law [V= $\sqrt{P \cdot R}$ ] as limited by the resistance value of specified product.

# HIGH CURRENT/BRAKING (continued)

	Resistor Family	Max Voltage*	Max Current (Amp)	Resistance (Ohms)	Watts	Tolerance	Notes
	<b>JR Series</b> High Power Jumper Chip	$\sqrt{P \cdot R}$	100	0.5m-0.2mΩ	0.2-2	_	Available in 5 different sizes; 100MΩ insulation resistance
A Manual March	<b>PFE and PFR</b> <b>Series</b> Powr-Rib® Edgewound Edgewound and Round Wire	$\sqrt{P \cdot R}$	5.1-100	0.1-25Ω	700-1,000 (up to 1,600 watts on special order)	±10% std., ±5% available	Designed in both Edgewound and Round Wire formats
•	<b>S Series</b> <b>Shunts</b> High Current Shunts	$\sqrt{P \cdot R}$	100-1200	_	100- 1,200A	0.5% accuracy class	Choose from 3 terminal types and 4A ratings.
	<b>SGM Series</b> Stamped Grid Module Resistors	1,000 VAC/ 1,400 VDC	$\sqrt{\frac{p}{R}}$	2.7-392Ω	4kW- 380kW	±10% std.; others on request	Brake resistors are offered as open units or with an enclosure
			100	1.000mΩ	100A		Simple four port Kelvin desigr ensures easy installation on large current bus bars.
	SH Series	$\sqrt{P \cdot R}$	150	0.6666mΩ	150A	±0.5%	
	<b>Shunt</b> Precision Metal-		200	0.5000mΩ	200A	Applies to all resistance ranges	
	Clad Shunts		250	0.4000mΩ	250A	and power ratings	
			300	0.3333mΩ	300A		
	WLRD6G Series High Current Oval Edgewound	550	18-146	0.082-6.13Ω	525-1,750	±10%	Five sizes with up to thirty-one current ratings; special higher voltage mounting available
E	<b>WLRH Series</b> Heliohm Wirewound	600	1.0-32.0	0.25-250Ω	1.0-32.0A continuous	±10%	45 models ranging from 0.25-250Ω; Various mounting options

\*Maximum voltage is based on Ohm's Law [ $V=\sqrt{P\cdot R}$ ] as limited by the resistance value of specified product.

### **CURRENT SENSE**

Ohmite's line of products for Current Sense applications provide ultra-low values while still maintaining resistive stability. Ohmite Current Sense resistors are offered in two and four terminal configurations. With the versatility of multiple mountings, constructions, and configurations, Ohmite customers are sure to find the proper Current Sense resistor required to fit their needs.

**Common applications include:** Solar inverters, frequency converters, current sensors for hybrid power sources, battery management systems, and measuring instruments

# CURRENT SENSE

	Resistor Family	Max Current (Amp)	Lowest $\Omega$ Value	Temperature Coefficient of Resistance	Tolerance	Notes
	<b>10 Series</b> Axial Wire Element Current Sense Two or Four Terminal Axial	22A	0.005Ω (2-5W)	(0°C to 85°C) ≥0.015Ω: ±50 ppm/°C; <0.015Ω:±100 ppm/°C	±1% std.	Other tolerances available
	<b>14A Series</b> Alumina Body Current Sense	$\sqrt{\frac{p}{R}}^{*}$	0.004Ω (4W)	+150-+1100 ppm/°C based on resistance value. Increases as resistance value reduces.	±1% std.	Other tolerances available; 9 popular resistance values for easy accessibility
$\overline{}$	<b>60 Series</b> Two Terminal Metal Element Current Sense	$\sqrt{\frac{p}{R}}^{*}$	0.005Ω (0.1-3W)	50-100 ppm/°C	±3% std.	Multiple wattages, resistance values and tolerances offer a wide variety of design choices.
	<b>60S Series</b> Surface Mount Metal Plate Current Sense	$\sqrt{\frac{p}{R}}^{*}$	0.003Ω (0.25W) 0.002Ω (1W)	±100 ppm/°C (0.25W) ±350 ppm/°C (1W)	±5%	Custom values available
Latter Mart	ARCOL CRS Series CRS SMD Shunt Resistor	$\sqrt{\frac{p}{R}}^{*}$	0.002Ω (3.5-7W) 0.005Ω (2.5-5W)	±50-±100 ppm/°C (3.5-7W) ±60-±100 ppm/°C (2.5-5W)	±1%, ±5%	Available in two sizes; Manganin or NiCr element material
TUS	<b>ARCOL L4T Series</b> Four Terminal High Precision Current Sense Resistor	$\sqrt{\frac{p}{R}}^{*}$	10mΩ (0.5W, 0.75W)	±50 ppm/°C ±75 ppm/°C	±0.5%, ±1%	Available in two sizes; TCR of 75 ppm with 50 ppm available
OHNITE Rolo TITI	<b>CS3 Series</b> Wire Element Four Terminal Precision Current Sense	Max. 40 permanent	1mΩ (3W)	TC referenced to 25°C, ΔR taken at -15°C and +105°C, 60 ppm/°C	1%, 2%, 5%	Non Inductive Design; Four terminal Kelvin connection
	<b>CS5 Series</b> High Power Precision Current Sense	60 at 1mΩ	1mΩ (1W)	±30 ppm/°C	±0.5%, ±1%	Four terminal Kelvin connection allows high precision measurements even with low resistance values
*Max current/voltage	limited to Ohm's Law					1

# CURRENT SENSE (continued)

	Resistor Family	Max Current (Amp)	Lowest $\Omega$ Value	Temperature Coefficient of Resistance	Tolerance	Notes
	<b>EBW Series</b> Manganin/Aluchrom Alloy Current Sense	EBWA 100 at 0.5mΩ EBWB 180 at 0.2mΩ	EBWA (7W) 0.002Ω EBWB (5W) 0.005Ω	20°C-60°C Max. ±200 ppm/°C	±1%, ±5%	Manufactured using electron beam welding technology, allowing joining of different alloys with great accuracy and tolerance
Land Land	FC4L Series Four Terminal Current Sense Metal Foil Construction	5 45-24 85-35	5mΩ (0.25W) 1mΩ (1W) 1mΩ (2W)	±50 ppm/°C- ±100 ppm/°C	±0.5%, ±1%, ±2%, ±5%	Industry standard sizes; Foil Construction ensures a very stable TCR
R OOS	<b>FC4T Series</b> Metal Foil Low Value Chip	$\sqrt{\frac{p}{R}}^{*}$	0.005Ω (0.5W)	within ±50 ppm, ±100 ppm for 5mΩ	0.5% and 1% std.	Range of resistance from and a TCR down to 50 ppm
R003	<b>FCSL Series</b> Metal Foil Current Sense	45-270 at 1m-10mΩ; 20-140 at 10m-100mΩ	2mΩ (1W) 1mΩ (1.5W-10W)	±50 ppm/°C- ±100 ppm/°C based on resistance value	±0.5%, ±1%, ±2%, ±5%	Very low & stable TCRs available in a wide selection of very low ohmic values
	<b>FK/GK Series</b> Metal Alloy Low- Resistance Chip Resistor	$\sqrt{\frac{p}{R}}^{*}$	0.3mΩ (5W)	Manganin: ≤ ±70 ppm/K Karma: ≤ ±40 ppm/K (20°-120°C)	1%	Ideal for mounting on DCB/IMS substrate
Real L	<b>KDV Series</b> Metal Film Low- Resistance Chip Resistor	2 2.24 3.16	50mΩ (0.2W) 100mΩ (0.25W) 100mΩ (0.5W)	±50 ppm/°C- ±100 ppm/°C based on resistance value	0.5%, 1%	Halogen and lead-free; Provides long-term stability & high- precision current sensing
RIOO	<b>LVC Series</b> Low Value Chip	32 40 45	10mΩ (0.5W) 10mΩ (0.75W) 10mΩ (1W)	±50 ppm/°C- ±100 ppm/°C based on resistance value	1%, 2%	Terminal Barrier Resists Ag Migration; Designed for Automatic Insertion
R0307	<b>LVK Series</b> Four Terminal High Precision Current Sense	20 23 27 200	0.01Ω (0.5W) 0.01Ω (0.75W) 0.01Ω (1.0W) 0.001Ω (2W)	50 ppm/°C 50 ppm/°C 50 ppm/°C 100-300 ppm/°C	0.25%, 0.5% and 1% std.	Industry standard sizes; High-precision Kelvin connect capability in a small package
*Max current/voltage	<b>LVM Series</b> Current Sensing Metal Chip Resistor	$\sqrt{\frac{p}{R}}^{*}$	10mΩ (0.125W) 10mΩ (0.5W) 7mΩ (1.0W)	100, 50, 100 ppm/°C 100, 50, 100 ppm/°C 50-75 ppm/°C	±0.5%, ±1%, ±2%, ±5%	SMD Type designed for automatic insertion; High overload rating in small size (5 times rated wattage for 5 seconds)

\*Max current/voltage limited to Ohm's Law

# CURRENT SENSE (continued)

	Resistor Family	Max Current	Lowest $\Omega$ Value	Temperature Coefficient of Resistance	Tolerance	Notes
	<b>LVR Series</b> Low-TCR Current Sense Chips	$\sqrt{\frac{p}{R}}^{*}$	5mΩ (0.1W,) 2.5mΩ (0.125W)	150 ppm/°C ±150 ppm/°C - ±350 ppm/°C	1%, 5%	LVR series chip sizes amongst the smallest current sense chips on the market; great stabil with TCR values down t 150 ppm
No.	<b>LVT Series</b> Low Value Current Sense	$\sqrt{\frac{p}{R}}^{*}$	2.5mΩ (0.33W, size 0402) 2mΩ (0.33W, size 0603) 2mΩ (0.5W) 2mΩ (1W)	±150, 100, 75, or 50 ppm based on resistance	3%, 2% and 1% based on resistance value	Flip Chip design produces an economical option; Great stability with TCR down to 50 ppm
ROIS ROIS TWO TWO TWO TWO TWO TWO TWO TWO TWO TWO	MCS Series Metal Element Current Sense Resistive Metal Alloy mOhm Technology, SMD	$\sqrt{\frac{p}{R}}^{*}$	3mΩ (0.75W) 3mΩ (1W) 2mΩ (2W)	>10mΩ: ±100 ppm/°C ≤10mΩ: ±50 ppm/°C	1%, 3%, 5%	NiCu or MnCu resistiv alloy; material TCR ±10ppm/°K
	<b>PCS Series</b> Low Resistance Value Chip Resistors	31.62 63.25 31.62	1mΩ (1W) 0.5mΩ (2W) 4mΩ (4W)	±50 ppm/°C	0.5%, 1%	Metal alloy plate construction, alloy ty based on resistance value.
	<b>RW1/RW2 Series</b> Surface Mount Four Terminal Current Sense	$\sqrt{\frac{p}{R}}^{*}$	5mΩ (1W-2W)	±50 ppm/°C	1%	Flameproof UL94-V-0
	<b>S Series Shunts</b> High Current Shunts	$\sqrt{\frac{p}{R}}^*$	_	_	0.5% accuracy class	Choose from 3 terminal types and 4 Amp ratings.
1 F	<b>SB Series</b> Surface Mount Element Current Sense	$\sqrt{\frac{p}{R}}^{*}$	2mΩ (3W) 16mΩ (2W) 1mΩ (5W)	±70, ±40 (See notes)	±1%, ±2%, ±5%	TCR = ±40, ±70; For 2-3mΩ SBM12 ar 1mΩ SBM20, TCR is 240 ppm
	<b>SH Series Shunt</b> Precision Metal-Clad Shunts	$\sqrt{\frac{p}{R}}^*$	1mΩ 0.66mΩ 0.5mΩ 0.4mΩ 0.33mΩ	Max. 30 ppm/°C [20°C and 60°C]	±0.5%	Simple four port Kelv design ensures easy installation on large current bus bars.
- COC	<b>TGHG Series</b> Chassis Mounting Non-inductive High Power Resistors	150 permanent not to exceed Ohms Law power load $\sqrt{\frac{p}{R}}^{*}$	0.5mΩ (100W)	Referenced to 25°C, ΔR taken at -15°C and +105°C, <60 ppm/°C; <500 ppm/°C for resistance range 27m-49mΩ	0.5% (0.0005 thru 0.022Ω), 1%, 5%	SOT 227 Package; Other ohmic values available on request

\*Max current/voltage limited to Ohm's Law

# **RESISTIVE BASED SENSORS/SENSING**

For touch, pressure, temperature, and more, you can find the sensor for your project among Ohmite's multiple resistive sensor options. Utilizing technologies like thick film and thin film inks, we produce several versatile sensor types that can be easily integrated into your product.

# **RESISTIVE BASED SENSORS/SENSING**

Resistor Family	Actuation force	Sensing Range	Long Term Drift	Lifecycle Durability	Notes
<b>FSR Series</b> Force Sensing Resistor	Force to reach 10MΩ, Average of 100 samples <10g - <30g	Circa 20g to 5kg	1kg for 48hrs, Per log time <1% - <2%	(10M) 1kg force at 3Hz, Avg. change in res. of 4 sensors 3%-17%	Three individual designs (square, circle, and strip); Largely immune to EMI and water events; false touch rejection
<b>FSP Series</b> Force Sensing Potentiometers	Force to reach 10MΩ, Average of 100 samples <20g	Force range up to 1kg	1kg for 48hrs, Per log time <2%	(10M) 1kg force at 3Hz, Avg. change in resistance of 4 sensors 4%	Dynamically reconfigurable in firmware enabling multiple functions from a single sensor; Largely immune to EMI and water events; false touch rejection
	Specification	Nom. Resistance (Ω)	Temp. Range	Tolerance	Notes
<b>FST Series</b> Thin Film Temperature Sensor	DIN EN 60751	100-1,000Ω	-50°C to 170°C	Class B (R0: ±0.12%), Class 2B (R0: ±0.24%)	Two tolerance classes available; Multiple values available for high resolution

# **ABOUT OHMITE:** LEADING THE RESISTIVE PRODUCT CHARGE SINCE 1925

Ohmite Manufacturing Company has been the leading provider of resistive products for high current, high voltage, and high energy applications for over 90 years. The company's full portfolio of resistor construction includes wirewound, wire element, thick film, and ceramic composition.

Ohmite Manufacturing Company started operations in a small shop on the west side of Chicago in 1925. Founded by David T. Siegel, the company's focus was to manufacture carbon and wirewound 'lug' resistors for Chicago's growing radio manufacturing industry.

As the electronics industry evolved, Ohmite evolved along with it to service ever-changing design requirements. Through acquisitions from 1996-1999, Ohmite added the wirewound capabilities of Memcor-Truohm and Ward Leonard Resistors, as well as Victoreen Components's experienced specialization in Thick Film technology for high voltage applications.

In 1998, Ohmite was acquired by Heico Companies LLC; a multinational, U.S. based holding company, allowing for the move and expansion of Ohmite's Chicago-area plant. 2006 saw Ohmite's continued growth and enhancement of product offerings when it acquired Vishay's Angstrohm Rheostat and Ultronix Precision Resistor divisions.

Strengthened by the backing of Heico Companies LLC, Ohmite strives to maintain the flexibility needed to handle both large and small requirements. Product availability in today's market is critical to the success of our customers, which is why we continue to work with made-to-order parts and evaluate new technologies. Ohmite's network of international distributors and sales representatives enables us to fulfill the requirements of an increasingly global marketplace.

We offer a broad selection of Power Resistors to worldwide customers in the industrial, medical, military, and aerospace industries. Through ongoing product development, we continue to provide the latest in resistor technology required by today's sophisticated high voltage, high current, and high energy circuit designs. To view our most up to date resistor products please visit our website at <u>www.ohmite.com</u>.

Get in Touch – We're ready to help you find a solution to your design challenges.

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