CURRENT-VIEWING RESISTORS
TYPE ISM

Current-viewing-resistors Series ISM allow precise measurement of peak value and waveform of fast rise time current pulses. They excel by high bandwidth, low rise time and high accuracy of resistance value. Below their upper frequency limit (-3 dB), the current-viewing-resistors ISM behave like pure dc resistors with frequency-independent resistance value. Because of their double coaxial design current-viewing-resistors ISM are not susceptible to noise and electromagnetic interference.

Maximum RMS current is determined by dissipation, max. peak-current by the impulse-load integral $\int i^2(t)dt$. Upon loading with the max. impulse-load integral the resistor requires a recovery time during which it can cool down to ambient temperature. Since the stored thermal energy is almost exclusively dissipated by conduction through the current leads, the recovery time can not be specified in general. It must be determined, considering the heat conduction properties of the current leads of a particular application.

HILO TEST

ISM CURRENT-VIEWING RESISTORS

Type	Current rating peak	rms	Nominal resistance	Power	Impulse-load integral	Rise-time	Band-width 1)	Size	Diameter/ Length	Weight
ISM 3P/200	3 kA	8 A	200 mΩ*	13 W	1300 A^2s	7 ns	50 MHz	A1	35/430 mm	1.0 kg
ISM 3P/100	3 kA	10 A	100 mΩ	10 W	1300 A^2s	1.8 ns	200 MHz	A1	35/487 mm	1.3 kg
ISM 5P/50	5 kA	10 A	50 mΩ	5 W	1300 A^2s	1.8 ns	200 MHz	A	50/236 mm	1.5 kg
ISM 5P/20	5 kA	20 A	20 mΩ	8 W	8000 A^2s	1.8 ns	200 MHz	A	50/236 mm	1.5 kg
ISM 5P/10	5 kA	30 A	10 mΩ	9 W	20000 A^2s	1.8 ns	200 MHz	A	50/203 mm	1.4 kg
ISM 5P/5	5 kA	40 A	5 mΩ	8 W	80000 A^2s	7 ns	50 MHz	A	50/203 mm	1.4 kg
ISM 50/10	20 kA	50 A	10 mΩ	25 W	50000 A^2s	1.8 ns	200 MHz	B	65/296 mm	2.5 kg
ISM 50/5	20 kA	60 A	5 mΩ	18 W	50000 A^2s	1.8 ns	200 MHz	B	65/204 mm	2.1 kg
ISM 50/2	20 kA	70 A	2 mΩ	10 W	50000 A^2s	1.8 ns	200 MHz	B	65/149 mm	1.7 kg
ISM 100	40 kA	120 A	1.0 mΩ	14.4 W	50000 A^2s	1.8 ns	200 MHz	B	65/128 mm	1.5 kg
ISM 200	40 kA	220 A	0.25 mΩ	12.0 W	$2*10^5$ A^2s	7.0 ns	50 MHz	B	65/118 mm	1.5 kg
ISM 250	100 kA	250 A	1.0 mΩ	62.5 W	$5.6*10^5A^2s$	1.8 ns	200 MHz	D	200/160 mm	9.0 kg
ISM 300	100 kA	300 A	1.0 mΩ	90.0 W	$1.3*10^7A^2s$	175 ns	2.0 MHz	C	130/417 mm	8.5 kg
ISM 350	100 kA	360 A	0.5 mΩ	64.8 W	$5.6*10^5A^2s$	1.8 ns	200 MHz	D	200/160 mm	9.0 kg
ISM 500	100 kA	500 A	0.25 mΩ	62.5 W	$2.2*10^6A^2s$	7.0 ns	50 MHz	D	200/160 mm	9.0 kg
ISM 800	100 kA	800 A	0.10 mΩ	64.0 W	$1.4*10^7A^2s$	44 ns	8.0 MHz	D	200/160 mm	9.0 kg
ISM 1200	100 kA	1200 A	0.05 mΩ	72 W	$9.0*10^6A^2s$	28 ns	12.5 MHz	D	200/160 mm	9.0 kg
ISM 1600	100 kA	1600 A	25 µΩ	64 W	$5.6*10^7A^2s$	175 ns	2.0 MHz	D	200/160 mm	9.0 kg

Nominal resistance at 20°C, Resistance tolerance: ±1%, T_k = ± 50 ppm/K, * T_k = ± 100 ppm/K
Impulse-load integral $\int i^2dt$ is based on temperature rise of 100K. Voltage pickup: BNC
1) theoretical value