

CERAMIC MELF PIN DIODES

- Magnetic/Non-Magnetic “Cer-Met” (MELF) Packages
- Very Low Inductance, Full Faced Bonding
- Hermetic, Low Loss and Low Distortion Applications
- High Volume Manufacturing Capability
- 100% TX Screening Available

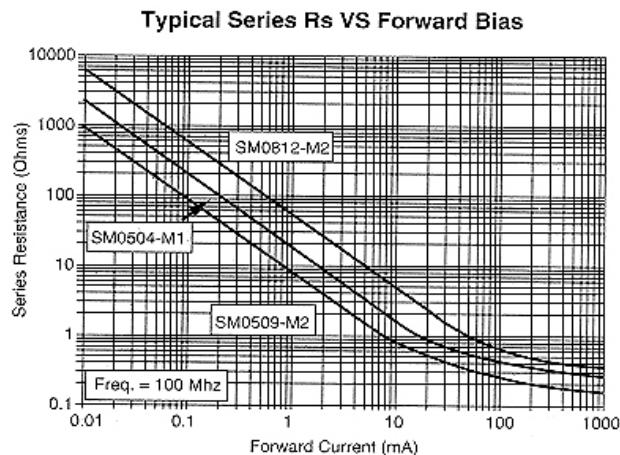


APPLICATIONS

These MELF diodes are used as switching, attenuating and phase shifting elements from HF through 2 GHz and have breakdown voltage ratings up to 700 volts. Non-magnetic “Cer-Met” (MELF’s) are also used as switching elements in MRI (magnetic resonance imaging) applications. Conventional magnetic MELF packages are used in cellular, beam steering applications, filter switch banks, and antenna tuning units..

DESCRIPTION

This new line of ‘MELF’ high power PIN diodes are hermetically sealed surface mount packaged devices with full face bonded chips for low inductance construction. The MELF ceramic package has square end terminations which are ideal for surface mount and pick and place operations. The PIN diode chips are coated with a special hard glass passivation which is required for high power applications to enhance the reliability resulting in MTBF’s of greater than one million hours.



CERAMIC MELF

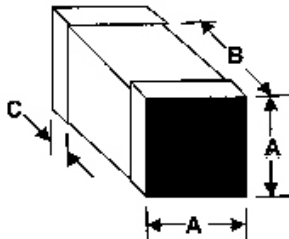
ELECTRICAL SPECIFICATION AT 25°C

PART NO.	CASE STYLE SUGGESTED	VOLTAGE RATING IR < 10µa VR	TOTAL CAPACITANCE F = 1 MHz VR=50V pF (MAX)	SERIES RESISTANCE If=100mA F=100MHz OHM (MAX)	SERIES RESISTANCE If=200mA F=100MHz OHM (TYP)	CARRIER LIFETIME If=10mA µSEC (TYP)	TYPICAL THERMAL RESISTANCE °C/W
SM0502	M1	500	0.50	0.70	0.55	1.0	35
SM0504	M1	500	0.60	0.60	0.45	1.5	20
SM0508	M1	500	0.90	0.40	0.25	2.0	15
SM0509	M1	500	1.20	0.35	0.20	2.5	15
SM0511	M1	500	1.25	0.30	0.15	3.0	15
SM0512	M1	500	1.50	0.25	0.12	3.5	15
SM0812	M1	700	1.30	0.40	0.25	4.0	15
SM1001	M1	700	1.30	0.35	0.20	4.5	15
SM1002	M1	50	1.20	.75 @50mA	0.20	4.0	15
SM1003	M1	35	1.2 @ 20V	.50 @ 10mA	0.10	0.6	25

ABSOLUTE MAXIMUM RATINGS AT 25°C

Peak Inverse Voltage (PIV):	Same as V_B
Forward Current (I_F):	1 AMP (1µS Pulse)
Power Dissipation (PD):	$P_{MAX} = \frac{T_{J(MAX)}}{\theta_{JC}}$
Junction Temp. (Operating):	-55°C to +150°C
Storage Temp. (Non-Operating):	-55°C to +150°C
:	

Case style M2 available as special option / some limitations apply / consult factory for details.



DIM	M1		M2	
	INCHES		INCHES	
	MIN	MAX	MIN	MAX
A	0.080	0.095	0.100	0.120
B	0.115	0.135	0.188	0.205
C	0.008	0.030	0.008	0.030

Non-magnetic packages are available upon request.