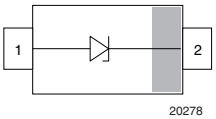
MSKSEMI
SEMICONDUCTOR

Surface Mount ESD Protection Diodes



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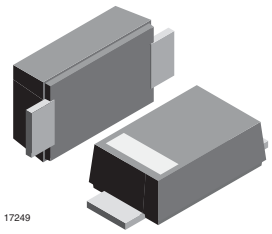

17249

FEATURES

- 200 W peak pulse power capability with a 10/1000 µs waveform, repetition rate (duty cycle): 0.01 %
- Low-profile package
- Wave and reflow solderable
- ESD-protection acc. IEC 61000-4-2
  ± 30 kV contact discharge
  ± 30 kV air discharge
- ESD capability according to AEC-Q101:
  human body model: class H3B: > 8 kV
- Low incremental surge resistance, excellent clamping capability
- "Low-Noise" technology - very fast response time
- AEC-Q101 qualified available

MARKING (example only)

22623

Bar = cathode marking
YY = type code (see table below)
XX = date code

PACKAGE DATA

PACKAGE NAME	MOLDING COMPOUND	WEIGHT (mg)	HEIGHT MAX. (mm)	LENGTH MAX. (mm)	WIDTH MAX. (mm)	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	WHISKER TEST ACC. JESD 201	SOLDERING CONDITIONS
SMF (DO-219AB)	Standard	15	1.08	3.9	1.9	UL 94 V-0	MSL level 1 (acc. J-STD-020)	class 2	Peak temperature max. 260 °C
	Halogen-free								

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITIONS	SYMBOL	VALUE	UNIT
Peak pulse current	t_p = 10/1000 µs waveform	I_{PPM}	see "Electrical Characteristics"	A
Peak pulse power	t_p = 8/20 µs waveform acc. IEC 61000-4-5	P_{PP}	1000	W
	t_p = 10/1000 µs waveform		200	W
Peak forward surge current	8.3 ms single half sine-wave	I_{FSM}	50	A
ESD immunity	Contact discharge acc. IEC 61000-4-2; 10 pulses	V_{ESD}	± 30	kV
	Air discharge acc. IEC 61000-4-2; 10 pulses		± 30	kV
Thermal resistance	Mounted on epoxy glass PCB with 3 mm x 3 mm, Cu pads (≥ 40 µm thick)	R_{thJA}	180	K/W
Forward clamping voltage	I_F = 50A, t_p = 400 µs	V_F	2.5	V
Junction temperature		T_J	175	°C
Storage temperature range		T_{stg}	-65 to +175	°C
Operating temperature range		T_{op}	-65 to +175	°C

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

PART NUMBER	TYPE CODE		REVERSE BREAKDOWN VOLTAGE at I_T, t_p = 5 ms	TEST CURRENT	REVERSE WORKING VOLTAGE	REVERSE CURRENT at V_{RWM}	PEAK PULSE CURRENT t_p = 10/1000 µs	REVERSE CLAMPING VOLTAGE at I_{PPM}	CAPACITANCE at V_R = 0 V, f = 1 MHz	PROTECTION PATHS
	STD.	HALOGEN-FREE	V_{BR} MIN. (V)	I_T (mA)	V_{RWM} (V)	I_R (µA)	I_{PPM} (A)	V_C MAX. (V)	C_D TYP. (pF)	$N_{channel}$
MSK15A	BM	OM	16.7	1	15	0.1	8.2	24.4	367	1

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

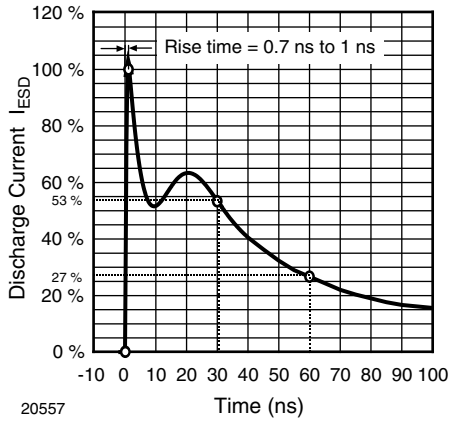


Fig. 1 - ESD Discharge Current Wave Form acc. IEC 61000-4-2 (330 Ω/150pF)

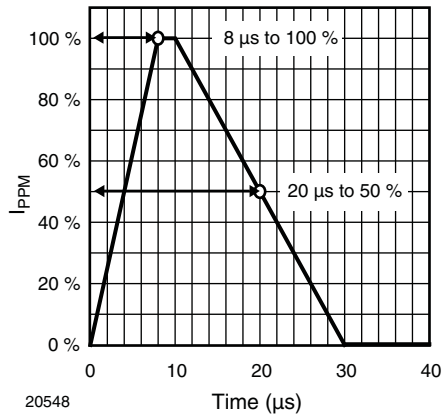


Fig. 2 - 8/20 µs Peak Pulse Current Wave Form acc. IEC 61000-4-5

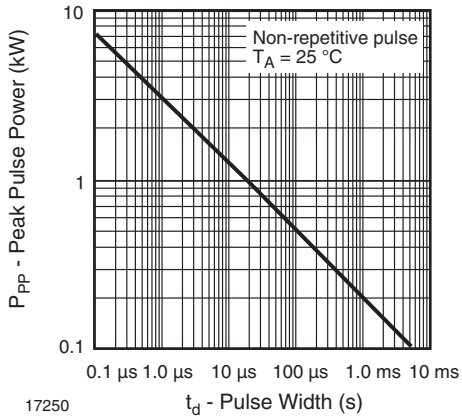


Fig. 3 - Peak Pulse Power Rating

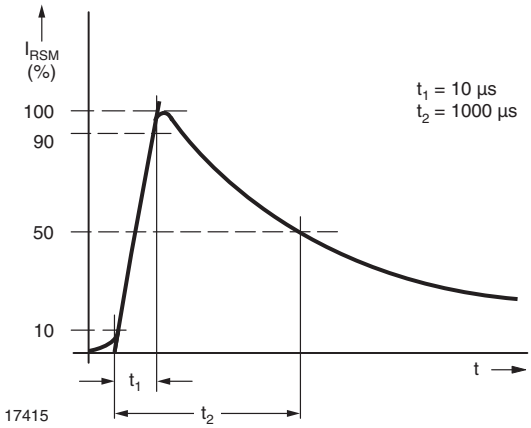


Fig. 4 - Pulse Waveform

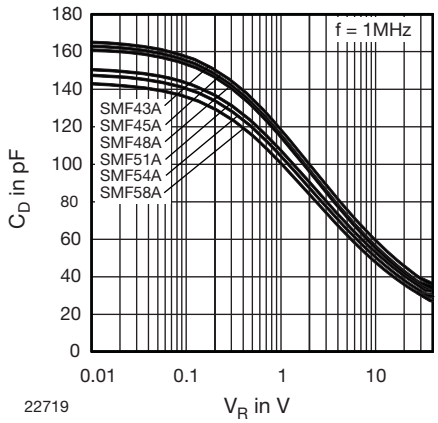


Fig. 5 - Typical Capacitance C_D vs. Reverse Voltage V_R

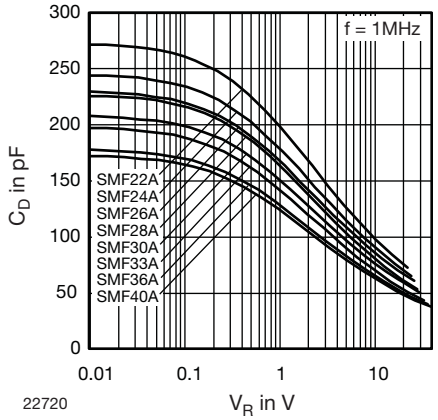


Fig. 6 - Typical Capacitance C_D vs. Reverse Voltage V_R

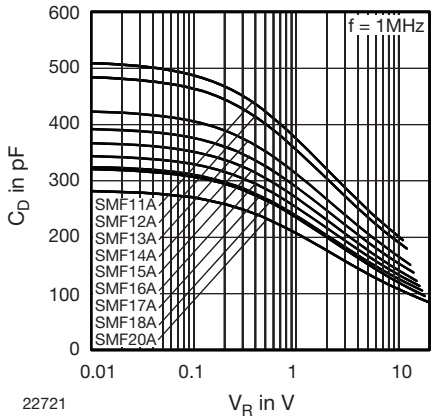


Fig. 7 - Typical Capacitance C_D vs. Reverse Voltage V_R

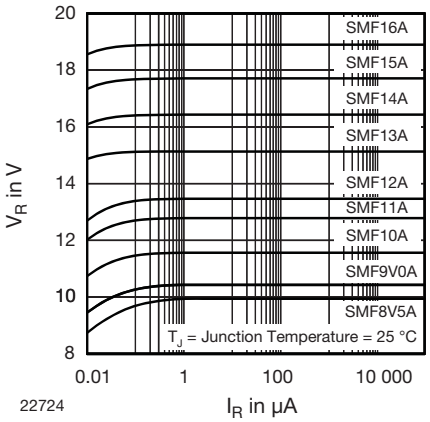


Fig. 10 - Typical Reverse Voltage V_R vs. Reverse Current I_R

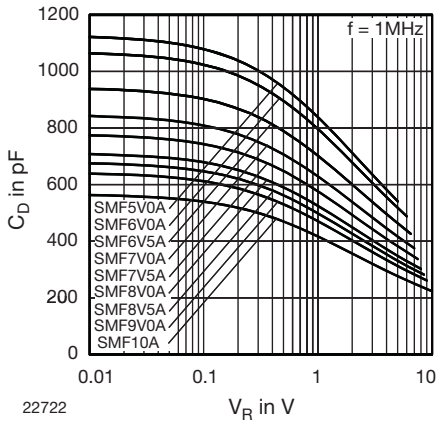


Fig. 8 - Typical Capacitance C_D vs. Reverse Voltage V_R

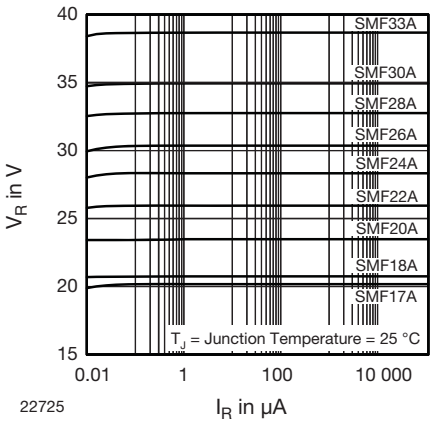


Fig. 11 - Typical Reverse Voltage V_R vs. Reverse Current I_R

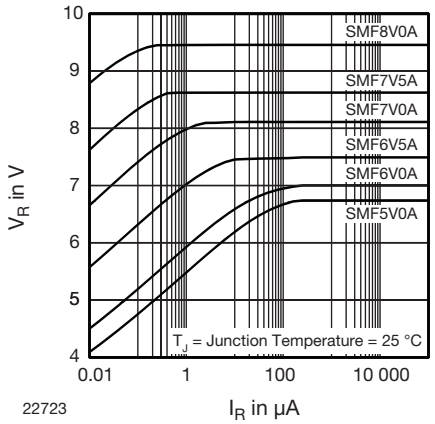


Fig. 9 - Typical Reverse Voltage V_R vs. Reverse Current I_R

Fig. 3 - Peak Pulse Power Rating

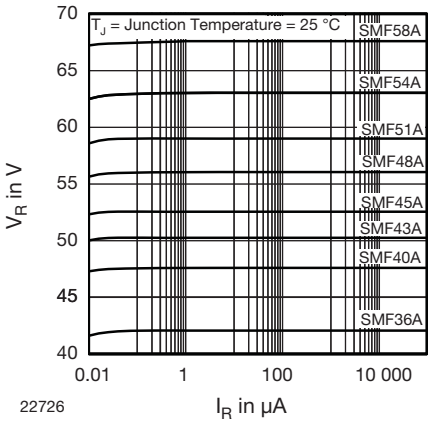
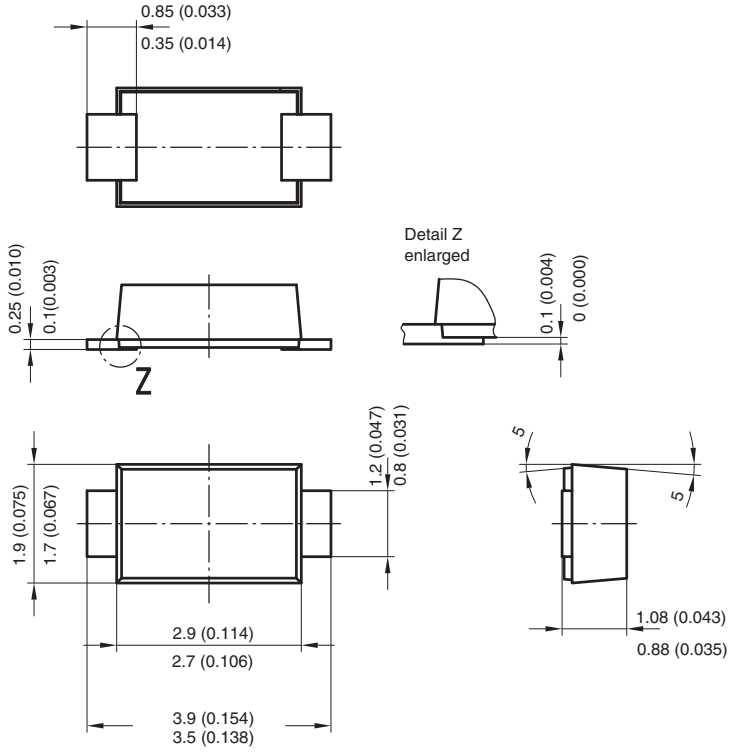


Fig. 12 - Typical Reverse Voltage V_R vs. Reverse Current I_R

Fig. 6 - Typical Capacitance C_D vs. Reverse Voltage V_R

PACKAGE DIMENSIONS in millimeters (inches): **SMF**



Foot print recommendation: