

SMA2EZ5.6D5 THRU SMA2EZ75D5

Features

- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- Glass Passivated Junction
- Excellent Clamping Capability
- Built-in Strain Relief
- Low Inductance

**2 W Glass Passivated
Junction Silicon
Zener Diode
5.6-75 Volts**

Mechanical Data

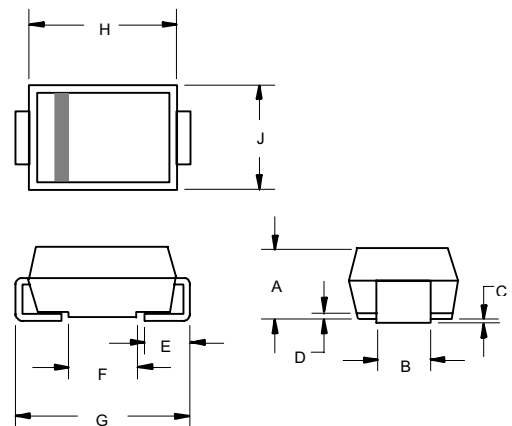
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL rating 1
- TERMINALS : Solder plated, solderable per MIL-STD-750, method 2026
- POLARITY : Color band denotes positive end (cathode)

Maximum Ratings @ 25°C Unless Otherwise Specified

Peak Pulse Power Dissipation (Note 2) Derate above 75°C	P_D	2 24	Watts mW/°C
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) (Note 3)	I_{FSM}	15	Amps
Operating And Storage Temperature Range	T_J, T_{STG}	-55°C to +150°C	

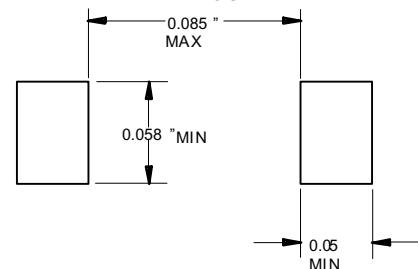
- NOTES: 1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7.
2. Mounted on 5.0mm² (.013mm thick) land areas.
3. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

DO-214AC (SMA) (LEAD FRAME)



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.079	.096	2.00	2.44	
B	.050	.064	1.27	1.63	
C	.002	.008	.05	.20	
D	---	.02	---	.51	
E	.030	.060	.76	1.52	
F	.065	.091	1.65	2.32	
G	.189	.220	4.80	5.59	
H	.157	.181	4.00	4.60	
J	.090	.115	2.25	2.92	

SUGGESTED SOLDER PAD LAYOUT



SMA2EZ5.6D5 THU SMA2EZ75D5

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted) $V_F=1.2\text{ V max}$, $I_F=500\text{ mA}$ for all types

Type No. (Note 1.)	Nominal Zener Voltage Vz @ I_{ZT} volts (Note 2.)	Test current I_{ZT} mA	Maximum Zener Impedance (Note 3)			Leakage Current		Maximum Zener Current I_{ZM} m A	Surge Current @ $T_A = 25^{\circ}\text{C}$ $I_{ZSM} - A$ (Note 4.)	DEVICE MARKING
			Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}	I_{ZK}	I_R	V_R			
			Ohms	Ohms	mA	$\mu\text{A Max}$	Volts			
SMA2EZ5.6D5	5.6	89.5	2.5	500	1	5	2	324	3.3	2E5.6
SMA2EZ6.2D5	6.2	80.5	1.5	700	1	5	3	292	3.1	2E6.2
SMA2EZ6.8D5	6.8	73.5	2	700	1	5	4	266	2.9	2E6.8
SMA2EZ7.5D5	7.5	66.5	2	700	0.5	5	5	242	2.66	2E7.5
SMA2EZ8.2D5	8.2	61	2.3	700	0.5	5	6	220	2.44	2E8.2
SMA2EZ9.1D5	9.1	55	2.5	700	0.5	3	7	200	2.2	2E9.1
SMA2EZ10D5	10	50	3.5	700	0.25	3	7.6	182	2.0	2E10
SMA2EZ11D5	11	45.5	4	700	0.25	1	8.4	166	1.82	2E11
SMA2EZ12D5	12	41.5	4.5	700	0.25	1	9.1	152	1.66	2E12
SMA2EZ13D5	13	38.5	5	700	0.25	0.5	9.9	138	1.54	2E13
SMA2EZ14D5	14	35.7	5.5	700	0.25	0.5	10.6	130	1.43	2E14
SMA2EZ15D5	15	33.4	7	700	0.25	0.5	11.4	122	1.33	2E15
SMA2EZ16D5	16	31.2	8	700	0.25	0.5	12.2	114	1.25	2E16
SMA2EZ17D5	17	29.4	9	750	0.25	0.5	13	107	1.18	2E17
SMA2EZ18D5	18	27.8	10	750	0.25	0.5	13.7	100	1.11	2E18
SMA2EZ19D5	19	26.3	11	750	0.25	0.5	14.4	95	1.05	2E19
SMA2EZ20D5	20	25	11	750	0.25	0.5	15.2	90	1	2E20
SMA2EZ22D5	22	22.8	12	750	0.25	0.5	16.7	82	0.91	2E22
SMA2EZ24D5	24	20.8	13	750	0.25	0.5	18.2	76	0.83	2E24
SMA2EZ27D5	27	18.5	18	750	0.25	0.5	20.6	68	0.74	2E27
SMA2EZ30D5	30	16.6	20	1000	0.25	0.5	22.5	60	0.67	2E30
SMA2EZ33D5	33	15.1	23	1000	0.25	0.5	25.1	55	0.61	2E33
SMA2EZ36D5	36	13.9	25	1000	0.25	0.5	27.4	50	0.56	2E36
SMA2EZ39D5	39	12.8	30	1000	0.25	0.5	29.7	47	0.51	2E39
SMA2EZ43D5	43	11.6	35	1500	0.25	0.5	32.7	43	0.45	2E43
SMA2EZ47D5	47	10.6	40	1500	0.25	0.5	35.8	39	0.42	2E47
SMA2EZ51D5	51	9.8	48	1500	0.25	0.5	38.8	36	0.39	2E51
SMA2EZ56D5	56	9	55	2000	0.25	0.5	42.6	32	0.36	2E56
SMA2EZ62D5	62	8.1	60	2000	0.25	0.5	47.1	29	0.32	2E62
SMA2EZ68D5	68	7.4	75	2000	0.25	0.5	51.7	27	0.29	2E68
SMA2EZ75D5	75	6.7	90	2000	0.25	0.5	56	24	0.27	2E75

Notes:

1. TOLERANCES - Suffix indicates 5% tolerance any other tolerance will be considered as a special device.
2. ZENER VOLTAGE (V_Z) MEASUREMENT - guarantees the zener voltage when measured at 40 ms from the diode body, and an ambient temperature of 25
3. ZENER IMPEDANCE (Z_Z) DERIVATION - The zener impedance is derived from the 60 cycle ac voltage, which results when an ac current having an rms value equal to 10% of the dc zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK}
4. SURGE CURRENT (I_{ZSM}) NON-REPETITIVE - The rating listed in the electrical characteristics table is maximum peak, non-repetitive, reverse surge current of 1/2 square wave or equivalent sine wave pulse of 1/120 second duration superimposed on the test current, I_{ZT} , per JEDEC standards, however, actual device capability is as described in Figure 3.

RATING AND CHARACTERISTICS CURVES
SMA2EZ5.6D5 THRU SMA2EZ75D5

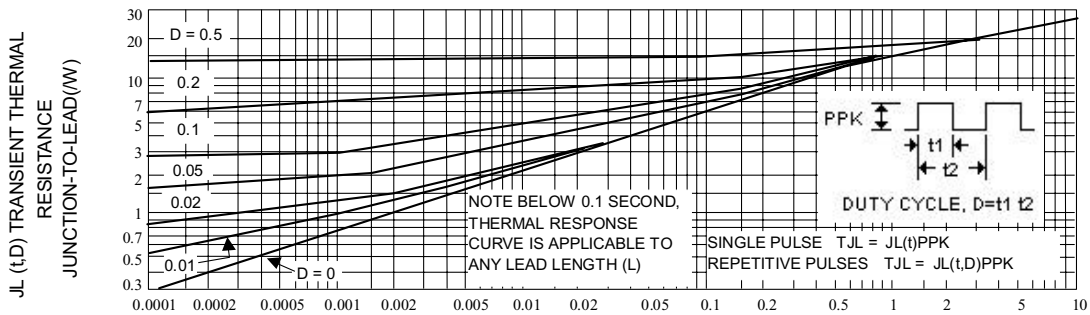


Fig. 2-TYPICAL THERMAL RESPONSE

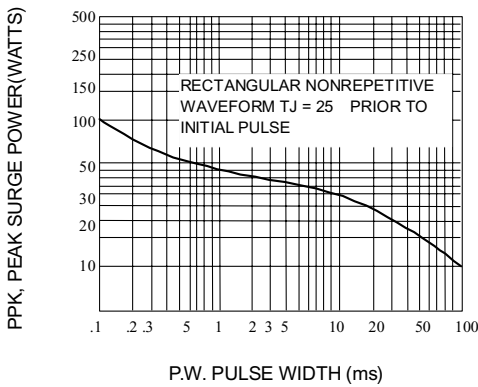


Fig. 3-MAXIMUM SURGE POWER

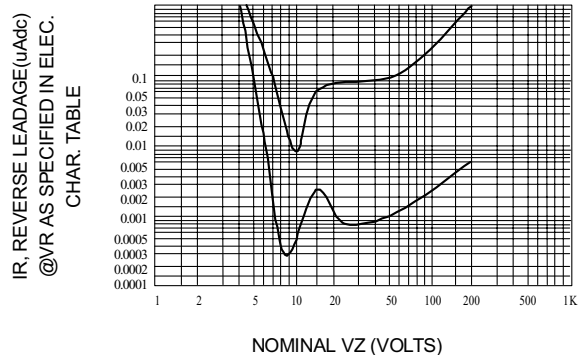


Fig. 4-TYPICAL REVERSE LEAKAGE

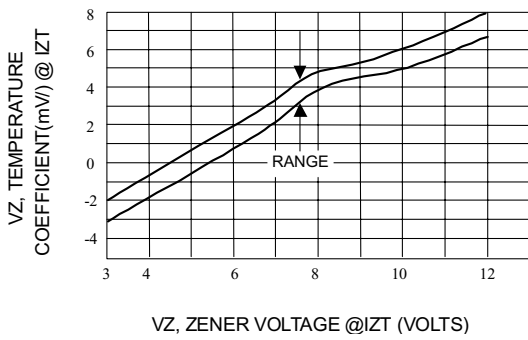


Fig. 5-UNITS 3.9 TO 12 VOLTS

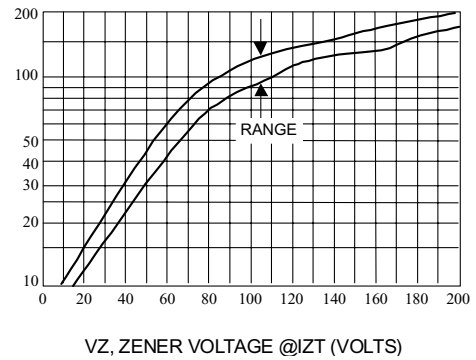


Fig. 6-UNITS 10 TO 200 VOLTS

RATING AND CHARACTERISTICS CURVES

SMA2EZ5.6D5 THRU SMA2EZ75D5

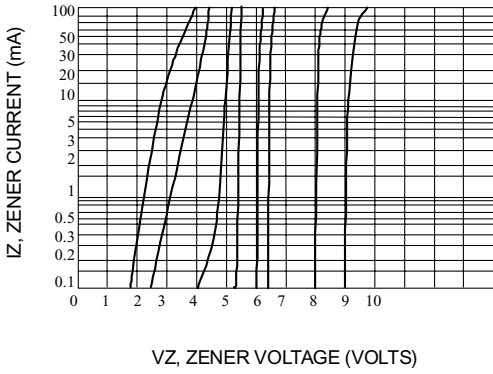


Fig. 7-V_Z = 3.9 THRU 10 VOLTS

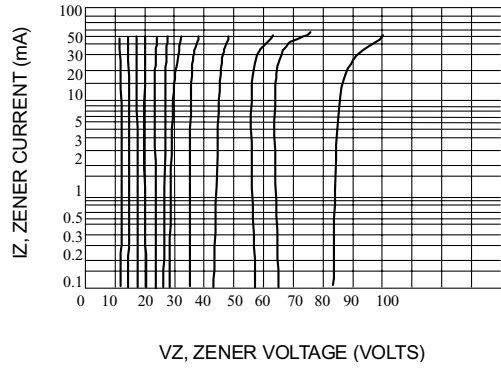


Fig. 8-V_Z = 12 THRU 82 VOLTS

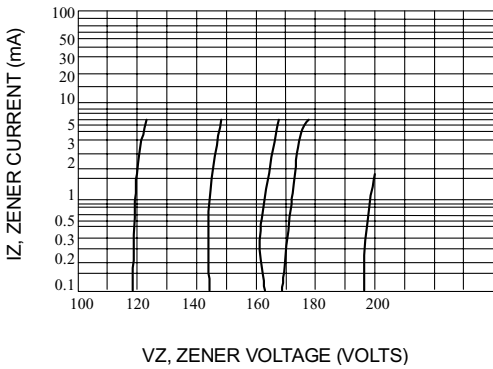


Fig. 9-V_Z = 100 THRU 200 VOLTS

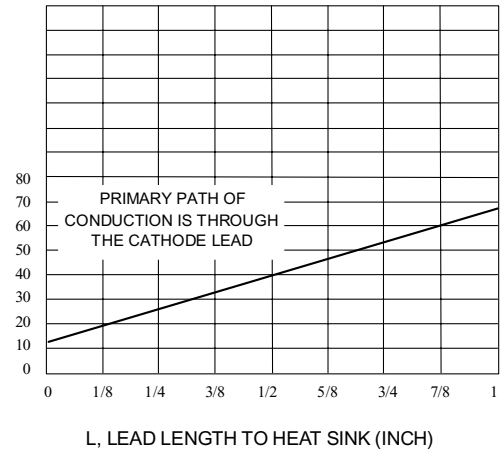


Fig. 10-TYPICAL THERMAL RESISTANCE

Ordering Information

Device	Packing
(Part Number)-TP	Tape&Reel; 7.5Kpcs/Reel

•

•