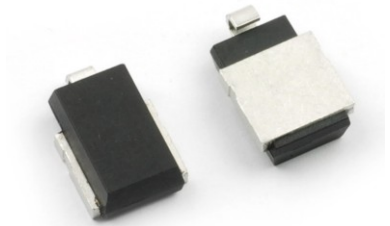


SMD Type 6600 W

■ Features

1. For surface mounted applications
2. RoHS compliant and halogen-free
3. Reliable low cost construction utilizing molded plastic technique
4. Glass passivated chip junction
5. Both bi-directional and uni-directional devices are available
6. Fast response time
7. Low leakage
8. Excellent clamping capability
9. 6600W peak pulse power capability with a 10/1000 μ s waveform, repetitive rate (duty cycle): 0.01%
10. High reliability application and automotive grade meet AEC Q101 requirement



■ Recommended Applications

1. Telecommunication
2. Computer
3. Industrial device
4. Consumer electronic device
5. Automotive

■ Mechanical Data

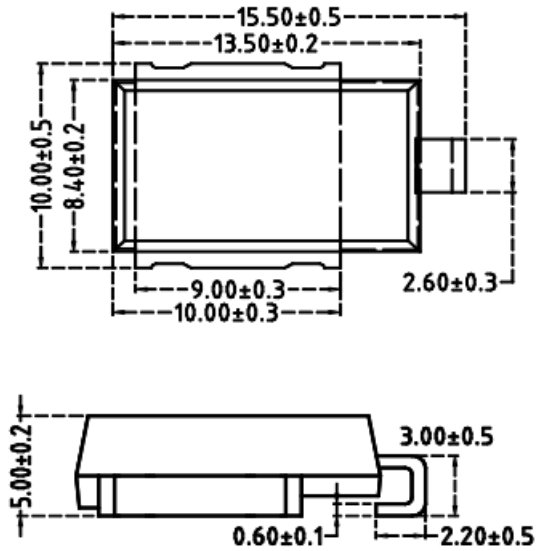
1. Case: DO-218AB, molded compound meets UL flammability rating 94V-0
2. Polarity: Heatsink is anode (Except bi-directional devices)

■ Part Number Code

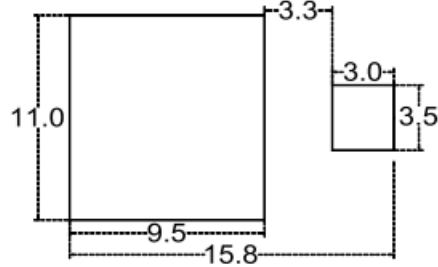
T	P	S	M.	8	Z	1	4	C	A
1	2	3	4	5	6	7	8	9	10
THINKING Automotive Transient Voltage Suppression Diodes		Product Series SM8Z THINKING Transient Voltage Suppression Diodes SM8Z Series				Reverse Stand Off Voltage (V_{RWM}) 10 10V 43 43V		Type Code Blank Uni-directional, 10% V_{BR} Voltage Tolerance C Bi-directional, 10% V_{BR} Voltage Tolerance A Uni-directional, 5% V_{BR} Voltage Tolerance CA Bi-directional, 5% V_{BR} Voltage Tolerance	

Structures and Dimensions

DO-218AB



Recommended Mounting Pad Layout



Maximum Rating ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation at $T_A=25^\circ\text{C}$ by 10/1000 μs waveform (Note1).	P_{PPM}	6600	W
Peak pulse current of on 10/1000us waveform (Note1)	I_{PPM}	See Table	A
Power dissipation on infinite heatsink at $T_L=25^\circ\text{C}$	P_D	8.0	W
Operating junction and storage temperature range	T_J, T_{STG}	$-55 \sim +150$	$^\circ\text{C}$

Note: 1. Please refer to Fig. 2 for non-repetitive current pulse, and Fig. 1 for derated above $T_A = 25^\circ\text{C}$

Transient Voltage Suppression Diodes: TPSM8Z Series

SMD Type 6600 W



■ Electrical Characteristics (T_A=25°C unless otherwise noted)

Part No. (Uni)	Part No. (Bi)	Reverse Stand off Voltage	Breakage Voltage VBR @ IT		Test Current	Maximum Clamping Voltage VC @ Ipp	Maximum Peak Pulse Current	Maximum Reverse Leakage IR @VRWM	Maximum IR @VRWM TJ=150	Marking Code	
		VRWM (V)	Min(V)	Max(V)	IT(mA)	VC(V)	Ipp(A)	IR(μA)	(uA)	Uni	Bi
TPSM8Z10A	—	10	11.1	12.3	5	17	388	15	250	SM8Z10A	—
TPSM8Z11A	—	11	12.2	13.5	5	18.2	363	10	150	SM8Z11A	—
TPSM8Z12A	—	12	13.3	14.7	5	19.9	332	10	150	SM8Z12A	—
TPSM8Z13A	—	13	14.4	15.9	5	21.5	307	10	150	SM8Z13A	—
TPSM8Z14A	TPSM8Z14CA	14	15.6	17.2	5	23.2	284	10	150	SM8Z14A	SM8Z14CA
TPSM8Z15A	TPSM8Z15CA	15	16.7	18.5	5	24.4	270	10	150	SM8Z15A	SM8Z15CA
TPSM8Z16A	TPSM8Z16CA	16	17.8	19.7	5	26	254	10	150	SM8Z16A	SM8Z16CA
TPSM8Z17A	TPSM8Z17CA	17	18.9	20.9	5	27.6	239	10	150	SM8Z17A	SM8Z17CA
TPSM8Z18A	TPSM8Z18CA	18	20	22.1	5	29.2	226	10	150	SM8Z18A	SM8Z18CA
TPSM8Z20A	TPSM8Z20CA	20	22.2	24.5	5	32.4	204	10	150	SM8Z20A	SM8Z20CA
TPSM8Z22A	TPSM8Z22CA	22	24.4	26.9	5	35.5	186	10	150	SM8Z22A	SM8Z22CA
TPSM8Z24A	TPSM8Z24CA	24	26.7	29.5	5	38.9	170	10	150	SM8Z24A	SM8Z24CA
TPSM8Z26A	TPSM8Z26CA	26	28.9	31.9	5	42.1	157	10	150	SM8Z26A	SM8Z26CA
TPSM8Z28A	TPSM8Z28CA	28	31.1	34.4	5	45.4	145	10	150	SM8Z28A	SM8Z28CA
TPSM8Z30A	TPSM8Z30CA	30	33.3	36.8	5	48.4	136	10	150	SM8Z30A	SM8Z30CA
TPSM8Z33A	TPSM8Z33CA	33	36.7	40.6	5	53.3	124	10	150	SM8Z33A	SM8Z33CA
TPSM8Z36A	TPSM8Z36CA	36	40	44.2	5	58.1	114	10	150	SM8Z36A	SM8Z36CA
TPSM8Z40A	TPSM8Z40CA	40	44.4	49.1	5	64.5	102	10	150	SM8Z40A	SM8Z40CA
TPSM8Z43A	TPSM8Z43CA	43	47.8	52.8	5	69.4	95.1	10	150	SM8Z43A	SM8Z43CA

Note:

1. Add suffix "C" or "CA" after part number to specify Bi-directional devices.
2. Surge current waveform is defined at 10/1000μs waveform.

■ Rate and Characteristic Curve ($T_A=25^\circ\text{C}$ unless otherwise noted)

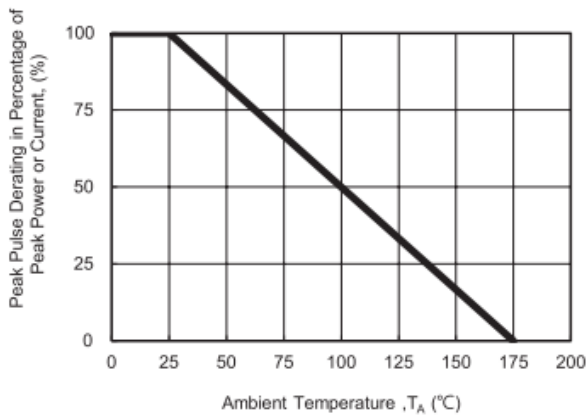


Fig. 1 - Pulse Derating Curve

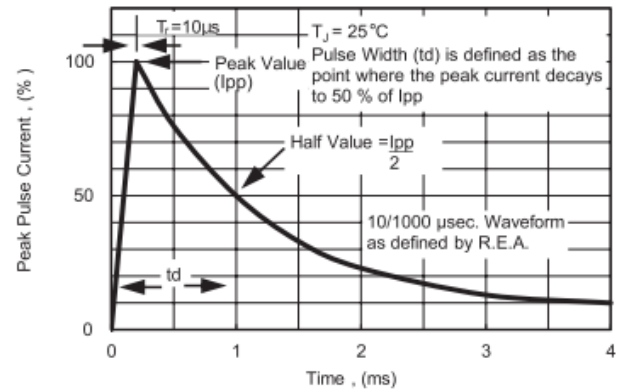


Fig. 2 - Pulse Waveform

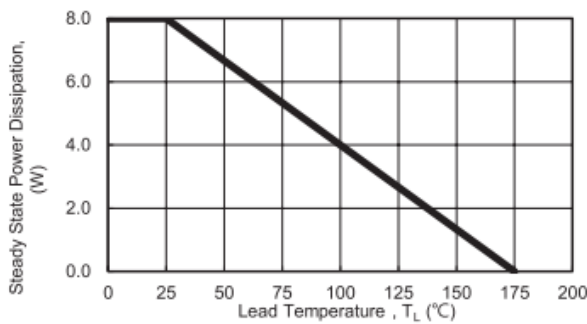


Fig. 3 - Steady State Power Derating Curve

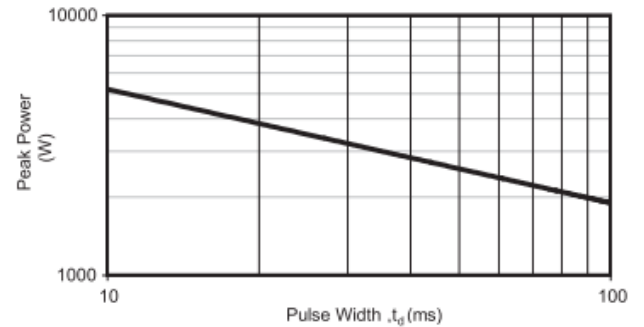


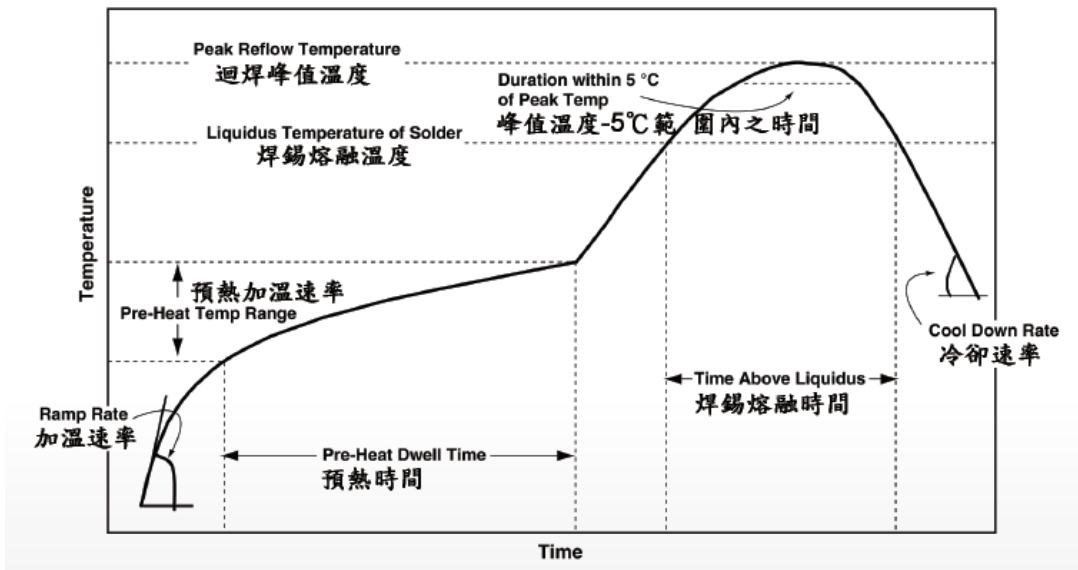
Fig. 4 - Peak Pulse Power Rating Curve

Transient Voltage Suppression Diodes: TPSM8Z Series

SMD Type 6600 W

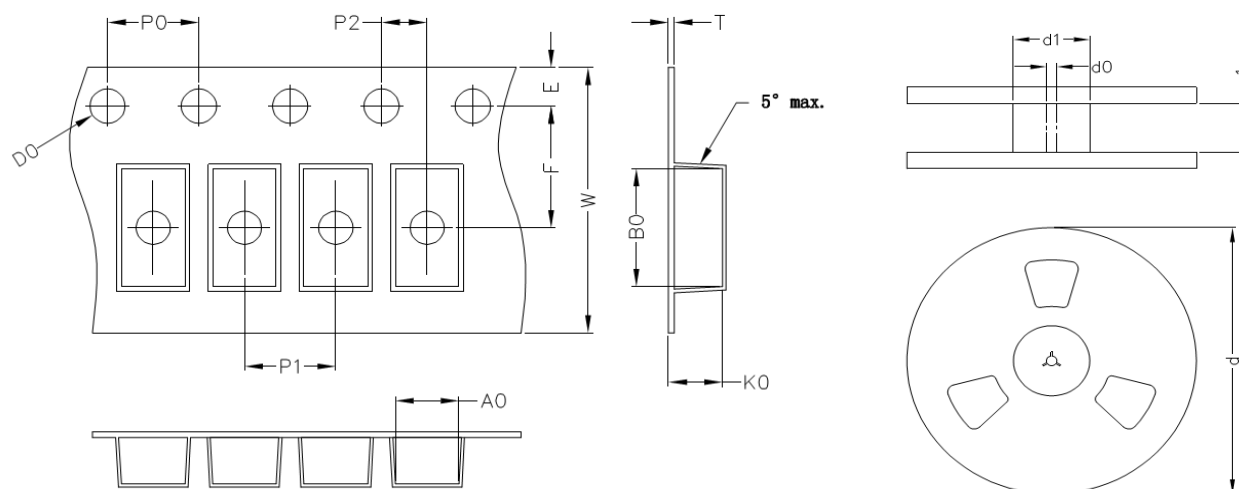


IR-reflow soldering profile



LEAD(Pb)-FREE SOLDER(SnAgCu) REFLOW PROFILE ATTRIBUTES	
PROFILE ATTRIBUTE	PROFILE ATTRIBUTE
Peak Reflow Temperature	250(+10/-5)°C
Time within 5°C of Peak Temperature	30s max
Liquidus Temperatura of Solder	217°C
Cool Down Rate	6 °C/s max
Time above Liquidus	60s to 150s
Pre-heat Temperature Range	150°C to 200°C
Pre-heat Dwell Time	60s to 120s
Maximum Ramp Rate	3 °C/s max

■ Packaging



(Unit : mm)

Index	A0	B0	K0	D0	E	F	P0	P1	P2	T	W	d(13")	d1	d0	w1
TP8M8Z	10.8	16.3	6.02	1.55	1.75	11.5	4	16	2	0.4	24.3	330	61	13.5	25

Note: The tolerance of carrier tape and top cover is ± 0.1 mm, the tolerance of reel is ± 2 mm

■ Quantity

MPQ: 750pcs

Series Type	Reel size	Quantity (pcs/reel)
TP8M8Z	13"	750

■ Warehouse Storage Conditions of product

- Storage Condition:
 - Storage Temperature: 15~30°C
 - Relative Humidity: $\leq 75\%$ RH
 - Keep away from corrosive atmosphere and sunlight.
- Period of Storage: 1 year.