

V_Z: 5.1-39 V

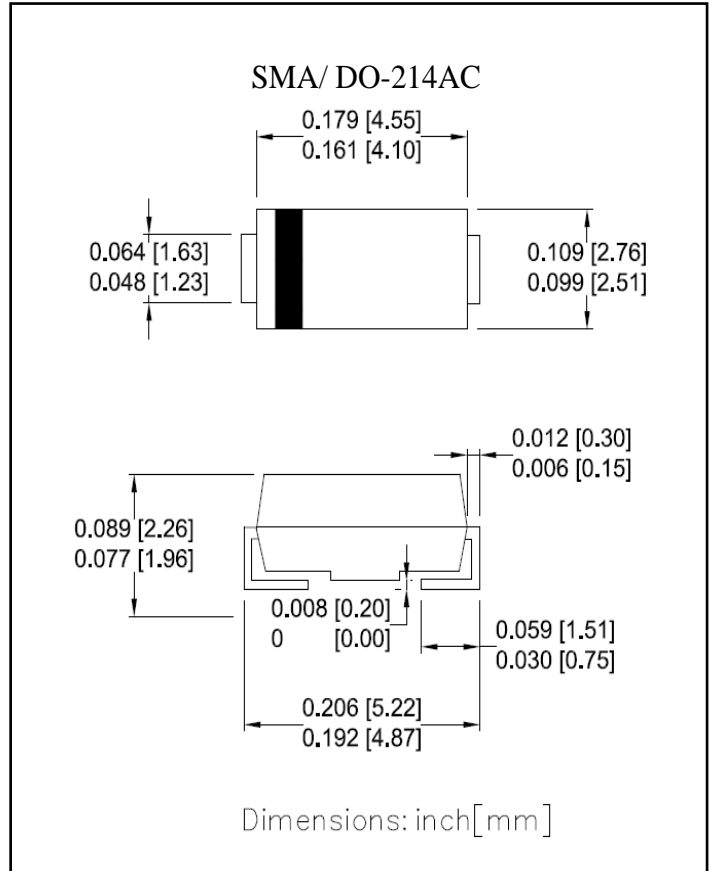
P_D: 1 W

Features

- Glass/Oxide passivated chip
- Low leakage
- Built-in strain relief
- Low inductance
- High peak reverse power dissipation
- Lead (Pb)-free component
- For use in stabilizing and clipping with high power rating

Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end
- Mounting position: Any



Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	UNIT
DC power dissipation at T _L = 50 °C ⁽¹⁾	P _D	1	W
Maximum forward voltage at I _F = 200 mA	V _F	1.2	V
Maximum thermal resistance junction to ambient air ⁽²⁾	R _{ΘJA}	170	K/W
Junction temperature range	T _J	- 55 to + 175	°C
Storage temperature range	T _{STG}	- 55 to + 175	°C

Note:

(1) T_L = Lead temperature at 3/8 " (9.5mm) from body

(2) Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case

Ratings and Characteristics Curves ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

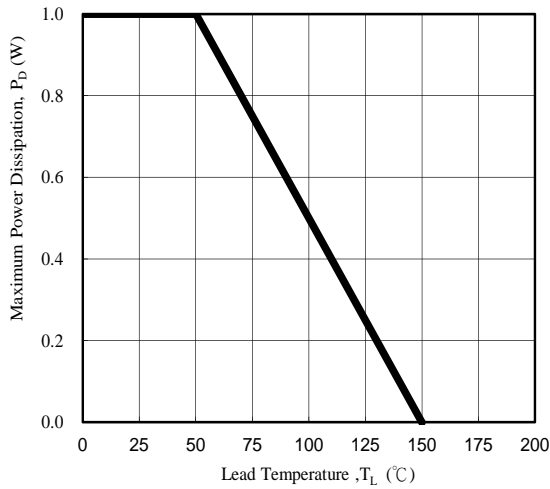


Fig. 1 - Power Temperature Derating Curve

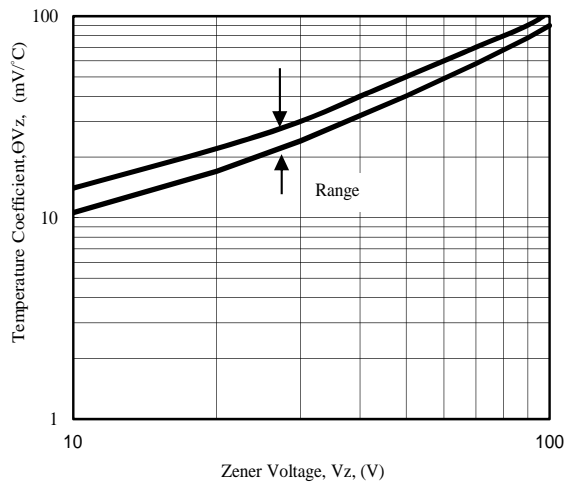


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

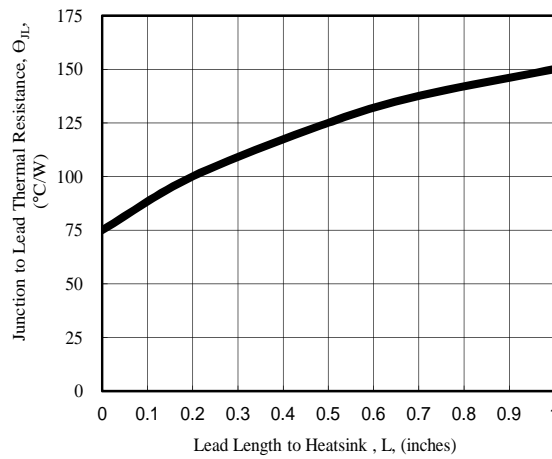


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

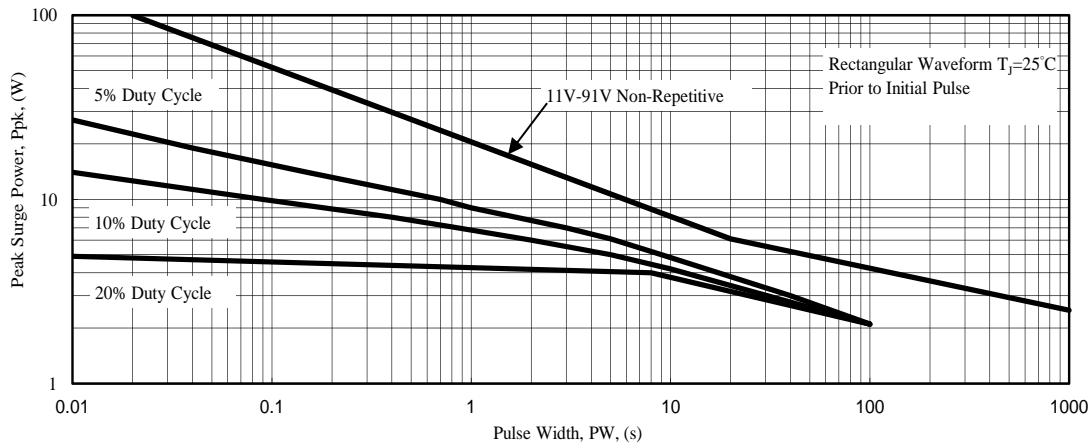


Fig. 4 - Maximum Surge Power

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

Part Number	Device Marking Code	Nominal Zener Voltage		Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
		$V_Z @ I_{ZT}$	I_{ZT}	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	I_{ZK}	$I_R @ V_R$		I_{ZM}
		(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	(mA)
TSMAZ5V1	ZHK	5.1	100	5.0	500	1.0	2.5	1.0	196
TSMAZ5V6	ZHL	5.6	100	2.0	250	2.0	5.0	2.0	179
TSMAZ6V2	ZHN	6.2	100	2.0	200	2.0	5.0	3.0	161
TSMAZ6V8	ZHO	6.8	100	2.0	200	1.0	5.0	4.0	147
TSMAZ7V5	ZHQ	7.5	100	2.0	450	1.0	5.0	5.0	133
TSMAZ8V2	ZHR	8.2	100	2.0	200	1.0	5.0	6.0	122
TSMAZ9V1	ZHT	9.1	50	4.0	200	1.0	5.0	7.0	110
TSMAZ10	ZHU	10.0	50	4.0	200	1.0	1.0	7.6	100
TSMAZ12	ZHW	12.0	50	7.0	150	1.0	1.0	9.1	83
TSMAZ15	ZHZ	15.0	50	10	150	1.0	1.0	11.4	67
TSMAZ16	ZJA	16.0	25	15	150	1.0	0.5	12.2	63
TSMAZ18	ZJF	18.0	25	15	150	1.0	0.5	13.7	56
TSMAZ20	ZJG	20.0	25	15	180	1.0	0.5	15.2	50
TSMAZ22	ZJK	22.0	25	15	180	1.0	0.5	16.7	45
TSMAZ24	ZJL	24.0	25	15	180	1.0	0.5	18.2	42
TSMAZ27	ZJN	27.0	25	15	200	1.0	0.5	20.5	37
TSMAZ30	ZJQ	30.0	25	15	250	1.0	0.5	22.8	33
TSMAZ33	ZJR	33.0	25	15	300	1.0	0.5	25.1	30
TSMAZ36	ZJS	36.0	10	40	350	1.0	0.5	27.4	28
TSMAZ39	ZJT	39.0	10	40	450	1.0	0.5	29.6	26

Notes :

- (1) The type number listed have a standard tolerance on the nominal zener voltage of $\pm 5\%$
- (2) The reverse surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on I_{ZT} per JEDEC Method