

**V<sub>Z</sub>: 5.1-39 V**  
**P<sub>D</sub>: 1 W**

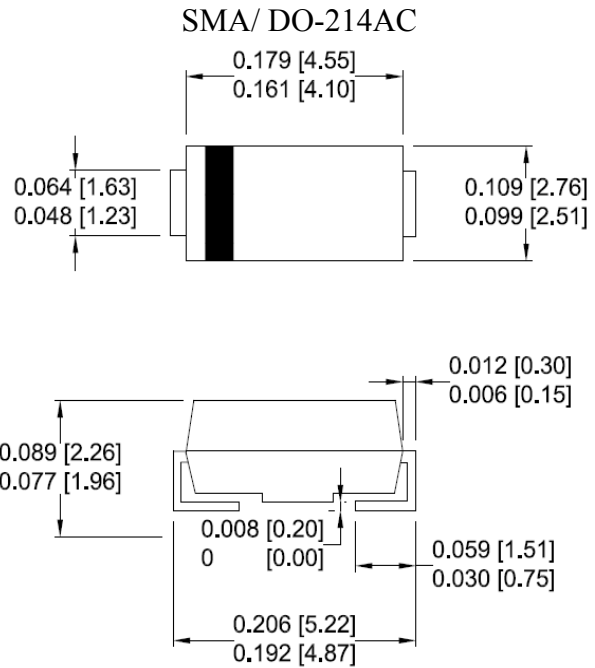
## Surface Mount Zener Diodes

### 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



Dimensions: inch [mm]

### Maximum Ratings (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Value	UNIT
DC power dissipation at T <sub>L</sub> = 50 °C <sup>(1)</sup>	P <sub>D</sub>	1	W
Maximum forward voltage at I <sub>F</sub> = 200 mA	V <sub>F</sub>	1.2	V
Maximum thermal resistance junction to ambient air <sup>(2)</sup>	R <sub>ΘJA</sub>	170	K/W
Junction temperature range	T <sub>J</sub>	- 55 to + 175	°C
Storage temperature range	T <sub>STG</sub>	- 55 to + 175	°C

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

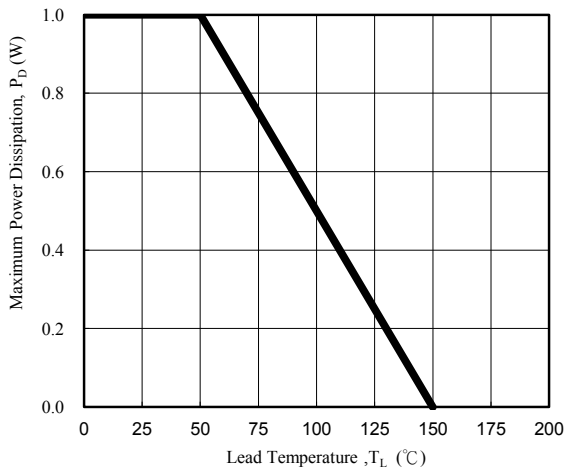


Fig. 1 - Power Temperature Derating Curve

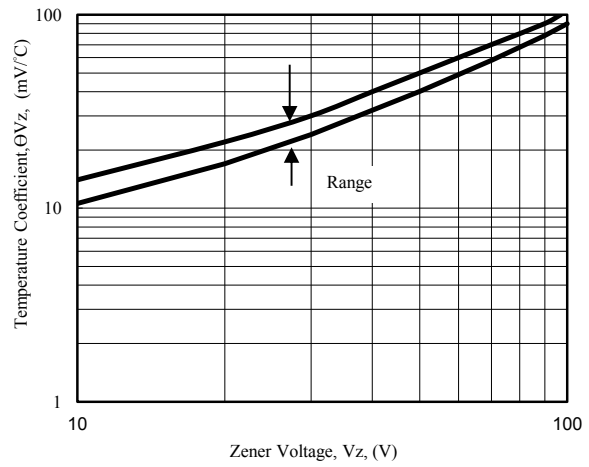


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

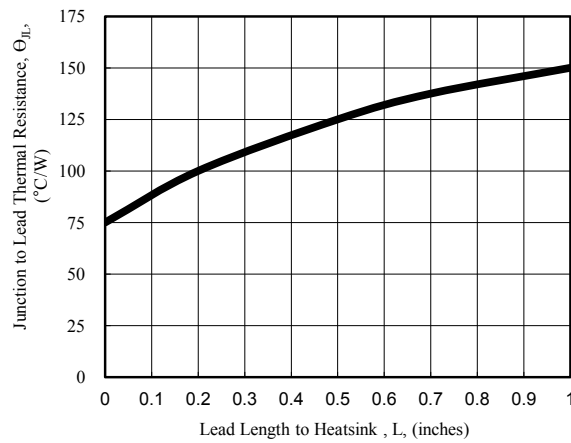


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

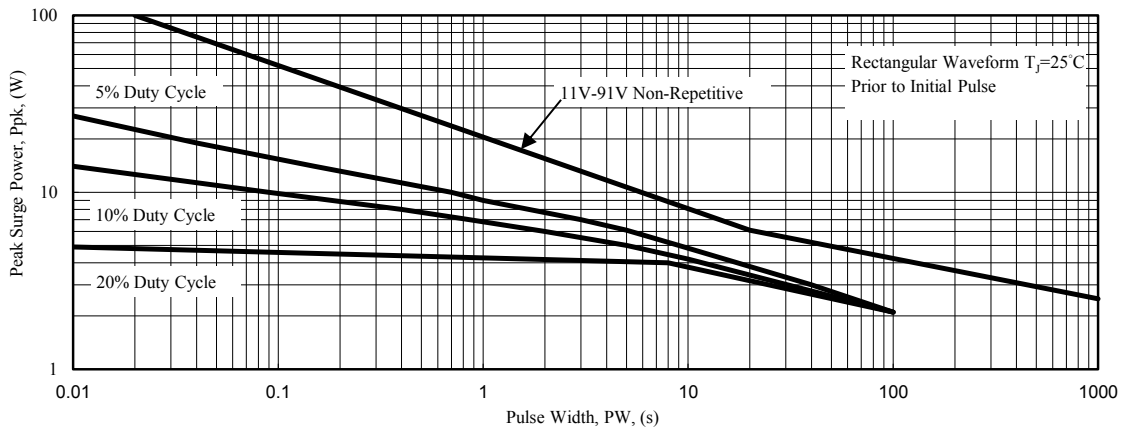


Fig. 4 - Maximum Surge Power

## 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
		$V_Z @ I_{ZT}$			$I_{ZT}$	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_{ZK}$	$I_R @ V_R$		$I_{ZM}$
		nom(V)	min(V)	max(V)	(mA)	( $\Omega$ )	( $\Omega$ )	(mA)	( $\mu\text{A}$ )	(V)	(mA)
SMAZ5V1	ZHK	5.1	4.84	5.40	100	5.0	500	1.0	2.5	1.0	196
SMAZ5V6	ZHL	5.6	5.32	5.88	100	2.0	250	2.0	5.0	2.0	179
SMAZ6V2	ZHN	6.2	5.89	6.51	100	2.0	200	2.0	5.0	3.0	161
SMAZ6V8	ZHO	6.8	6.46	7.14	100	2.0	200	1.0	5.0	4.0	147
SMAZ7V5	ZHQ	7.5	7.13	7.88	100	2.0	450	1.0	5.0	5.0	133
SMAZ8V2	ZHR	8.2	7.79	8.61	100	2.0	200	1.0	5.0	6.0	122
SMAZ9V1	ZHT	9.1	8.65	9.56	50	4.0	200	1.0	5.0	7.0	110
SMAZ10	ZHU	10.0	9.50	10.50	50	4.0	200	1.0	1.0	7.6	100
SMAZ12	ZHW	12.0	11.40	12.60	50	7.0	150	1.0	1.0	9.1	83
SMAZ15	ZHZ	15.0	14.25	15.75	50	10	150	1.0	1.0	11.4	67
SMAZ16	ZJA	16.0	15.20	16.80	25	15	150	1.0	0.5	12.2	63
SMAZ18	ZJF	18.0	17.10	18.90	25	15	150	1.0	0.5	13.7	56
SMAZ20	ZJG	20.0	19.00	21.00	25	15	180	1.0	0.5	15.2	50
SMAZ22	ZJK	22.0	20.90	23.10	25	15	180	1.0	0.5	16.7	45
SMAZ24	ZJL	24.0	22.80	25.20	25	15	180	1.0	0.5	18.2	42
SMAZ27	ZJN	27.0	25.65	28.35	25	15	200	1.0	0.5	20.5	37
SMAZ30	ZJQ	30.0	28.50	31.50	25	15	250	1.0	0.5	22.8	33
SMAZ33	ZJR	33.0	31.35	34.65	25	15	300	1.0	0.5	25.1	30
SMAZ36	ZJS	36.0	34.20	37.80	10	40	350	1.0	0.5	27.4	28
SMAZ39	ZJT	39.0	37.05	40.95	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