

**V<sub>Z</sub>: 3.3 to 200 V**

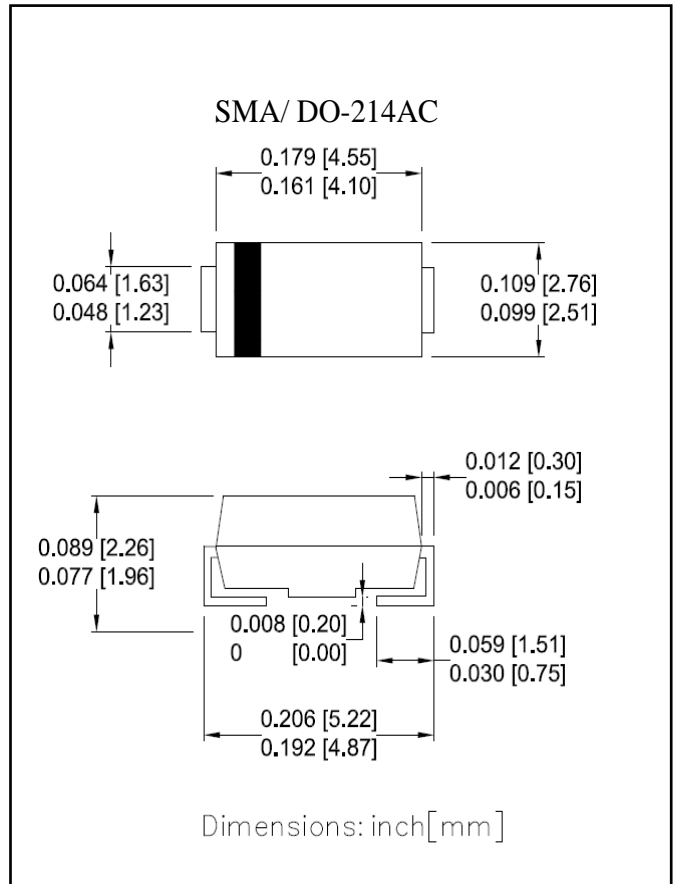
**P<sub>D</sub>: 3 W**

**Features**

- Glass passivated chip
- Low leakage
- Built-in strain relief
- Low inductance
- High peak reverse power dissipation
- For use in stabilizing and clipping with high power rating
- RoHS compliant

**Mechanical Data**

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



**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>	3	W
Maximum forward voltage at I <sub>F</sub> = 200 mA	V <sub>F</sub>	1.5	V
Junction temperature range	T <sub>J</sub>	- 55 to + 150	°C
Storage temperature range	T <sub>STG</sub>	- 55 to + 150	°C

**Note:**

(1) T<sub>L</sub> = Lead temperature at 3/8 " (9.5mm) from body

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

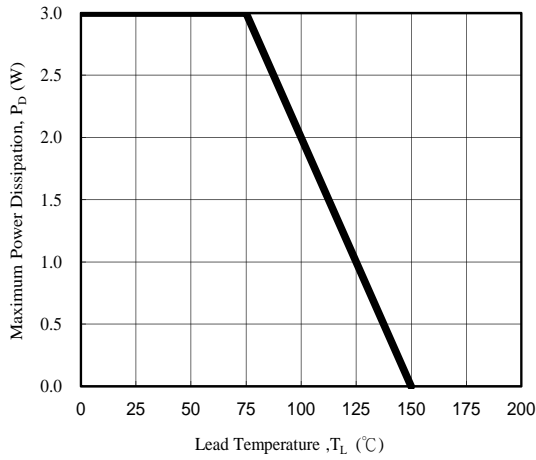


Fig. 1 - Power Temperature Derating Curve

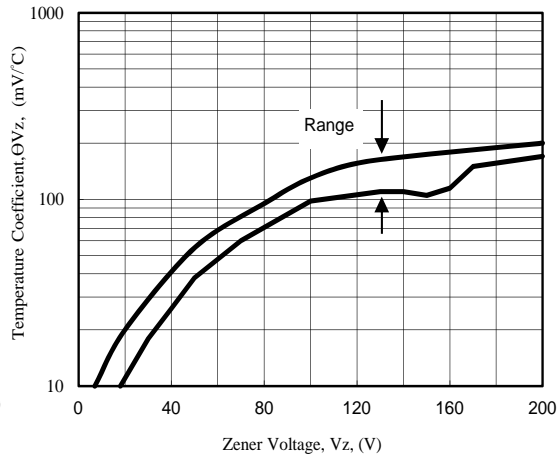


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

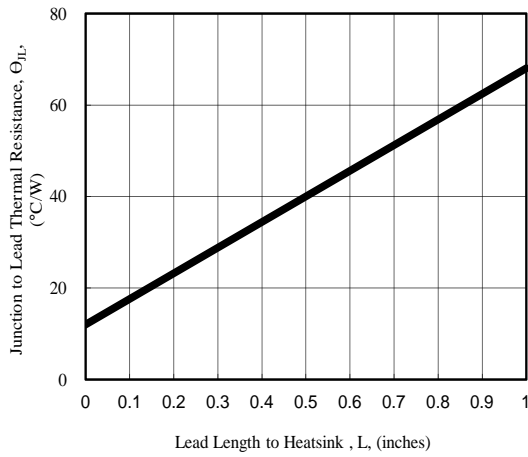


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

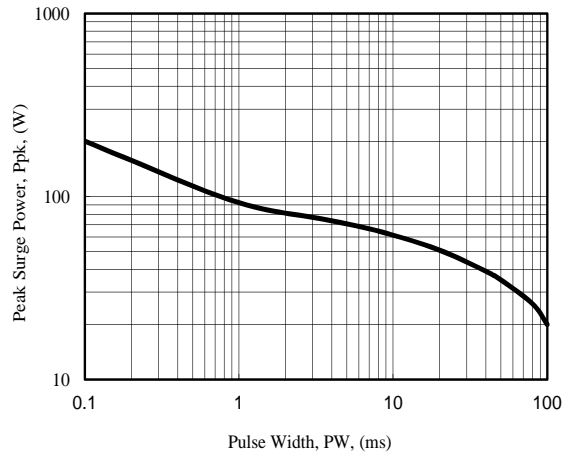


Fig. 4 - Maximum Surge Power

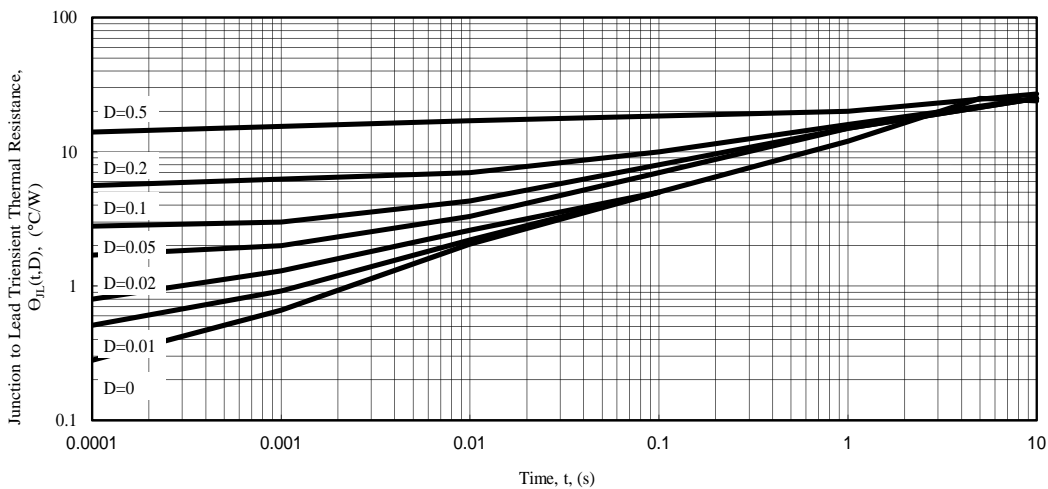


Fig. 5 - Typical Thermal Response L, Lead Length=3/8inch

### 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)	( $\Omega$ )	( $\Omega$ )	(mA)	( $\mu\text{A}$ )	(V)	(mA)
TSMA3EZ3.3D5	3H0	3.3	113.6	10.0	500	1.00	100.0	1.0	817
TSMA3EZ3.6D5	3H1	3.6	104.2	9.0	500	1.00	75.0	1.0	749
TSMA3EZ3.9D5	3H2	3.9	192.0	4.5	400	1.00	80.0	1.0	691
TSMA3EZ4.3D5	3H3	4.3	174.0	4.5	400	1.00	30.0	1.0	627
TSMA3EZ4.7D5	3H4	4.7	160.0	4.0	500	1.00	20.0	1.0	573
TSMA3EZ5.1D5	3H5	5.1	147.0	3.5	550	1.00	5.0	1.0	528
TSMA3EZ5.6D5	3H6	5.6	134.0	2.5	600	1.00	5.0	2.0	481
TSMA3EZ6.2D5	3A0	6.2	121.0	1.5	700	1.00	5.0	3.0	435
TSMA3EZ6.8D5	3A1	6.8	110.0	2.0	700	1.00	5.0	4.0	393
TSMA3EZ7.5D5	3A2	7.5	100.0	2.0	700	0.50	5.0	5.0	360
TSMA3EZ8.2D5	3A3	8.2	91.0	2.3	700	0.50	5.0	6.0	330
TSMA3EZ9.1D5	3A4	9.1	82.0	2.5	700	0.50	3.0	7.0	297
TSMA3EZ10D5	3A5	10.0	75.0	3.5	700	0.25	3.0	7.6	270
TSMA3EZ11D5	3A6	11.0	68.0	4.0	700	0.25	1.0	8.4	225
TSMA3EZ12D5	3A7	12.0	63.0	4.5	700	0.25	1.0	9.1	246
TSMA3EZ13D5	3A8	13.0	58.0	4.5	700	0.25	0.5	9.9	208
TSMA3EZ14D5	3A9	14.0	53.0	5.0	700	0.25	0.5	10.6	193
TSMA3EZ15D5	3B0	15.0	50.0	5.5	700	0.25	0.5	11.4	180
TSMA3EZ16D5	3B1	16.0	47.0	5.5	700	0.25	0.5	12.2	169
TSMA3EZ17D5	3B2	17.0	44.0	6.0	750	0.25	0.5	13.0	159
TSMA3EZ18D5	3B3	18.0	42.0	6.0	750	0.25	0.5	13.7	150
TSMA3EZ19D5	3B4	19.0	40.0	7.0	750	0.25	0.5	14.4	142
TSMA3EZ20D5	3B5	20.0	37.0	7.0	750	0.25	0.5	15.2	135
TSMA3EZ22D5	3B6	22.0	34.0	8.0	750	0.25	0.5	16.7	123
TSMA3EZ24D5	3B7	24.0	31.0	9.0	750	0.25	0.5	18.2	112
TSMA3EZ27D5	3B8	27.0	28.0	10.0	750	0.25	0.5	20.6	100
TSMA3EZ28D5	3B9	28.0	27.0	12.0	750	0.25	0.5	21.0	96
TSMA3EZ30D5	3C0	30.0	25.0	16.0	1000	0.25	0.5	22.5	90
TSMA3EZ33D5	3C1	33.0	23.0	20.0	1000	0.25	0.5	25.1	82
TSMA3EZ36D5	3C2	36.0	21.0	22.0	1000	0.25	0.5	27.4	75
TSMA3EZ39D5	3C3	39.0	19.0	28.0	1000	0.25	0.5	29.7	69
TSMA3EZ43D5	3C4	43.0	17.0	33.0	1500	0.25	0.5	32.7	63
TSMA3EZ47D5	3C5	47.0	16.0	38.0	1500	0.25	0.5	35.6	57
TSMA3EZ51D5	3C6	51.0	15.0	45.0	1500	0.25	0.5	38.8	53
TSMA3EZ56D5	3C7	56.0	13.0	50.0	2000	0.25	0.5	42.6	48
TSMA3EZ62D5	3C8	62.0	12.0	55.0	2000	0.25	0.5	47.1	44
TSMA3EZ68D5	3C9	68.0	11.0	70.0	2000	0.25	0.5	51.7	40
TSMA3EZ75D5	3F0	75.0	10.0	85.0	2000	0.25	0.5	56.0	36
TSMA3EZ82D5	3F1	82.0	9.1	95.0	3000	0.25	0.5	62.2	33
TSMA3EZ91D5	3F2	91.0	8.2	115.0	3000	0.25	0.5	69.2	30
TSMA3EZ100D5	3F3	100.0	7.5	160.0	3000	0.25	0.5	76.0	27
TSMA3EZ110D5	3F4	110.0	6.8	225.0	4000	0.25	0.5	83.6	25
TSMA3EZ120D5	3F5	120.0	6.3	300.0	4500	0.25	0.5	91.2	22
TSMA3EZ130D5	3F6	130.0	5.8	375.0	5000	0.25	0.5	98.8	21
TSMA3EZ140D5	3F7	140.0	5.3	475.0	5000	0.25	0.5	106.4	19
TSMA3EZ150D5	3F8	150.0	5.0	550.0	6000	0.25	0.5	114.0	18

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

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		$V_Z @ I_{ZT}$	$I_{ZT}$	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	$I_{ZK}$	$I_R @ V_R$		$I_{ZM}$
		(V)	(mA)	( $\Omega$ )	( $\Omega$ )	(mA)	( $\mu\text{A}$ )	(V)	(mA)
TSMA3EZ160D5	3F9	160.0	4.7	625.0	6500	0.25	0.5	121.6	17
TSMA3EZ170D5	3G1	170.0	4.4	650.0	7000	0.25	0.5	130.4	16
TSMA3EZ180D5	3G2	180.0	4.2	700.0	7000	0.25	0.5	136.8	15
TSMA3EZ190D5	3G3	190.0	4.0	800.0	8000	0.25	0.5	144.8	14
TSMA3EZ200D5	3G4	200.0	3.7	875.0	8000	0.25	0.5	152.0	13

**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