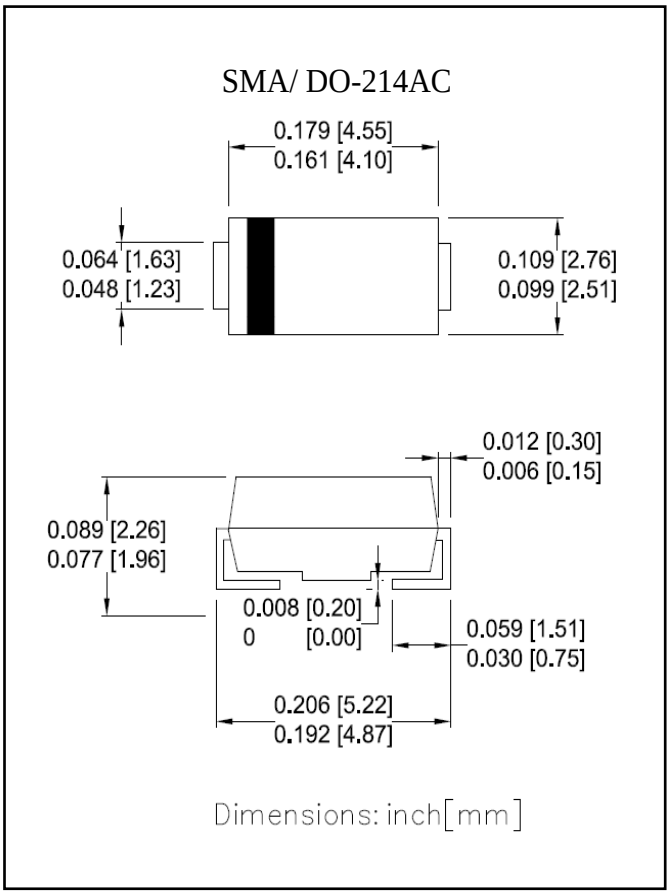
TSMA2EZ2.7D5 - TSMA2EZ330D5
Surface Mount Zener Diodes

V_Z: 2.7 to 330 V

P_D: 2 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 guranteed
- Polarity: Color band denotes cathode end
- Mounting position: Any

Maximum Ratings(T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	UNIT
DC power dissipation at T_L = 50 °C(1)	P_D	2	W
Maximum forward voltage at I_F = 200 mA	V_F	1.5	V
Junction temperature range	T_J	- 55 to + 150	°C
Storage temperature range	T_{STG}	- 55 to + 150	°C

Note:

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

Ratings and Characteristics Curves (T_A=25℃ unless otherwise noted)

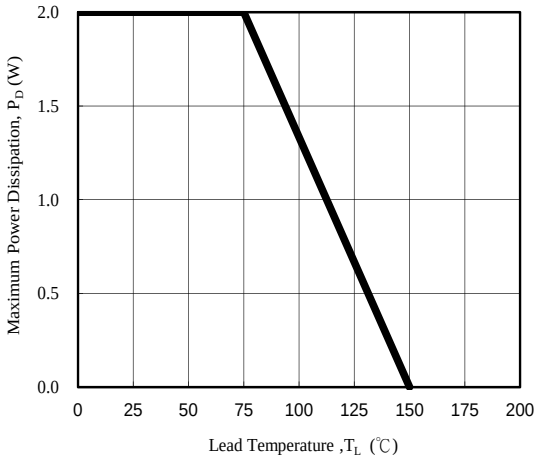


Fig. 1 - Power Temperature Derating Curve

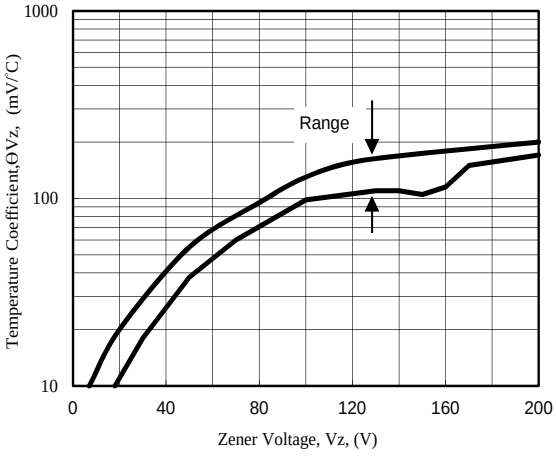


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

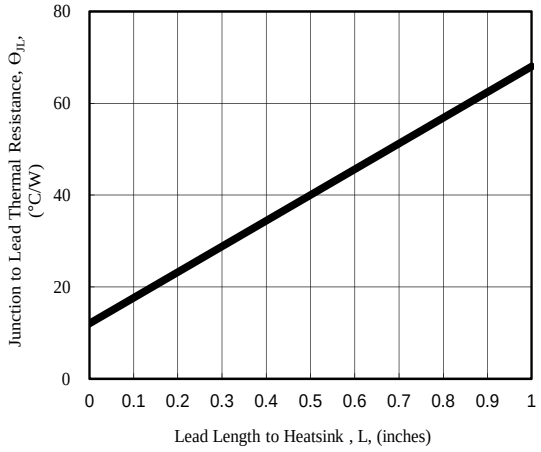


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

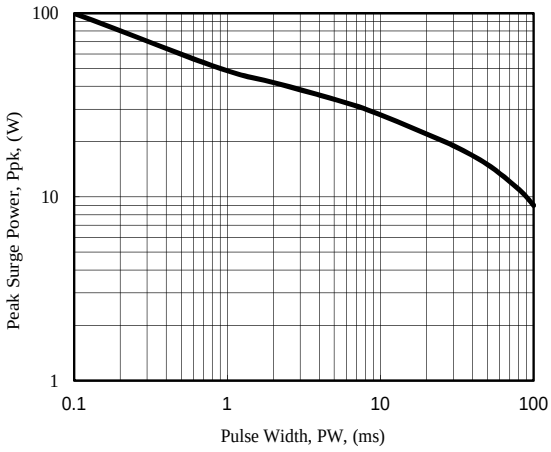


Fig. 4 - Maximum Surge Power

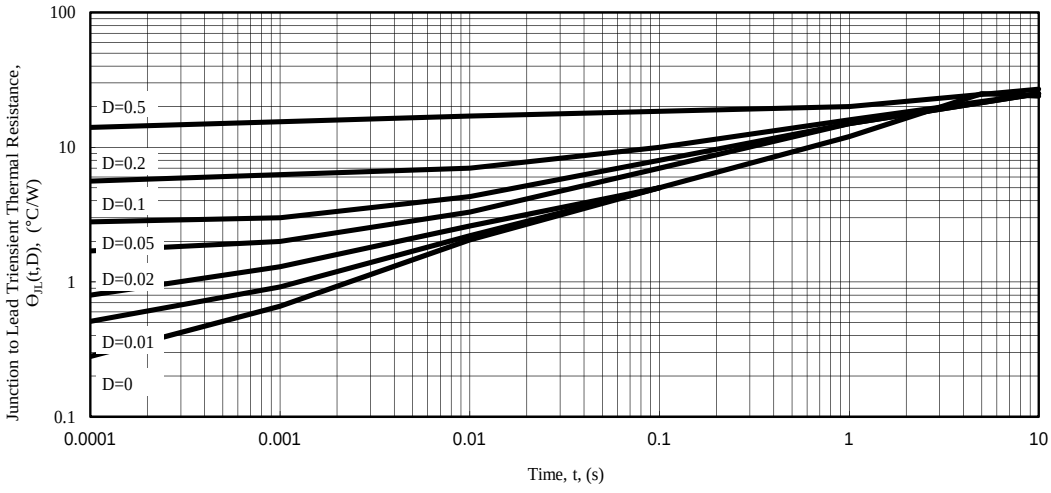


Fig. 5 - Typical Thermal Response L, Lead Length=3/8inch

Electrical Characteristics(T_A=25℃ 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)
TSMA2EZ2.7D5	2H0	2.7	80.0	10.0	400	1.00	100	1.0	670
TSMA2EZ3.0D5	2H1	3.0	160.0	8.0	400	1.00	100	1.0	603
TSMA2EZ3.3D5	2H2	3.3	145.0	8.0	400	1.00	80	1.0	548
TSMA2EZ3.6D5	2H3	3.6	139.0	5.0	400	1.00	80	1.0	502
TSMA2EZ3.9D5	2H4	3.9	128.0	5.0	400	1.00	30	1.0	464
TSMA2EZ4.3D5	2H5	4.3	116.0	4.5	400	1.00	20	1.0	421
TSMA2EZ4.7D5	2H6	4.7	106.0	4.5	550	1.00	5.0	1.0	385
TSMA2EZ5.1D5	2H7	5.1	98.0	3.5	600	1.00	5.0	1.0	354
TSMA2EZ5.6D5	2H8	5.6	89.5	2.5	500	1.00	5.0	2.0	323
TSMA2EZ6.2D5	2A0	6.2	80.5	1.5	700	1.00	5.0	3.0	292
TSMA2EZ6.8D5	2A1	6.8	73.5	2.0	700	1.00	5.0	4.0	266
TSMA2EZ7.5D5	2A2	7.5	66.5	2.0	700	0.50	5.0	5.0	242
TSMA2EZ8.2D5	2A3	8.2	61.0	2.3	700	0.50	5.0	6.0	220
TSMA2EZ9.1D5	2A4	9.1	55.0	2.5	700	0.50	3.0	7.0	200
TSMA2EZ10D5	2A5	10.0	50.0	3.5	700	0.25	3.0	7.6	182
TSMA2EZ11D5	2A6	11.0	45.5	4.0	700	0.25	1.0	8.4	166
TSMA2EZ12D5	2A7	12.0	41.5	4.5	700	0.25	1.0	9.1	152
TSMA2EZ13D5	2A8	13.0	38.5	5.0	700	0.25	0.5	9.9	138
TSMA2EZ14D5	2A9	14.0	35.7	5.5	700	0.25	0.5	10.6	130
TSMA2EZ15D5	2B0	15.0	33.4	7.0	700	0.25	0.5	11.4	122
TSMA2EZ16D5	2B1	16.0	31.2	8.0	700	0.25	0.5	12.2	114
TSMA2EZ17D5	2B2	17.0	29.4	9.0	750	0.25	0.5	13.0	107
TSMA2EZ18D5	2B3	18.0	27.8	10.0	750	0.25	0.5	13.7	100
TSMA2EZ19D5	2B4	19.0	26.3	11.0	750	0.25	0.5	14.4	95
TSMA2EZ20D5	2B5	20.0	25.0	11.0	750	0.25	0.5	15.2	90
TSMA2EZ22D5	2B6	22.0	22.8	12.0	750	0.25	0.5	16.7	82
TSMA2EZ24D5	2B7	24.0	20.8	13.0	750	0.25	0.5	18.2	76
TSMA2EZ27D5	2B8	27.0	18.5	18.0	750	0.25	0.5	20.6	68
TSMA2EZ30D5	2B9	30.0	16.6	20.0	1000	0.25	0.5	22.5	60
TSMA2EZ33D5	2C0	33.0	15.1	23.0	1000	0.25	0.5	25.1	55
TSMA2EZ36D5	2C1	36.0	13.9	25.0	1000	0.25	0.5	27.4	50
TSMA2EZ39D5	2C2	39.0	12.8	30.0	1000	0.25	0.5	29.7	47
TSMA2EZ43D5	2C3	43.0	11.6	35.0	1500	0.25	0.5	32.7	43
TSMA2EZ47D5	2C4	47.0	10.6	40.0	1500	0.25	0.5	35.8	39
TSMA2EZ51D5	2C5	51.0	9.8	48.0	1500	0.25	0.5	38.8	36
TSMA2EZ56D5	2C6	56.0	9.0	55.0	2000	0.25	0.5	42.6	32
TSMA2EZ62D5	2C7	62.0	8.1	60.0	2000	0.25	0.5	47.1	29
TSMA2EZ68D5	2C8	68.0	7.4	75.0	2000	0.25	0.5	51.7	27
TSMA2EZ75D5	2C9	75.0	6.7	90.0	2000	0.25	0.5	56.0	24
TSMA2EZ82D5	2F0	82.0	6.1	100.0	3000	0.25	0.5	62.2	22
TSMA2EZ91D5	2F1	91.0	5.5	125.0	3000	0.25	0.5	69.2	20
TSMA2EZ100D5	2F2	100.0	5.0	175.0	3000	0.25	0.5	76.0	18

Notes :

(1) The type number listed have a standard tolerance on the nominal zener voltage of ± 5 %

(2) The revese surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on IZT per JEDEC method

Electrical Characteristics(T_A=25℃ 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)
TSMA2EZ110D5	2F3	110.0	4.5	250.0	4000	0.25	0.5	83.6	17
TSMA2EZ120D5	2F4	120.0	4.2	325.0	4500	0.25	0.5	91.2	15
TSMA2EZ130D5	2F5	130.0	3.8	400.0	5000	0.25	0.5	98.8	14
TSMA2EZ140D5	2F6	140.0	3.6	500.0	5500	0.25	0.5	106.4	13
TSMA2EZ150D5	2F7	150.0	3.3	575.0	6000	0.25	0.5	114.0	12
TSMA2EZ160D5	2F8	160.0	3.1	650.0	6500	0.25	0.5	121.6	11
TSMA2EZ170D5	2F9	170.0	2.9	675.0	7000	0.25	0.5	130.4	11
TSMA2EZ180D5	2G1	180.0	2.8	725.0	7000	0.25	0.5	136.8	10
TSMA2EZ190D5	2G2	190.0	2.6	825.0	8000	0.25	0.5	144.8	10
TSMA2EZ200D5	2G3	200.0	2.5	1900.0	9990	0.25	0.5	152.0	9
TSMA2EZ220D5	2G4	220	2.0	2000	8500	0.25	0.5	167.0	8.0
TSMA2EZ270D5	2G5	270	1.6	2200	8500	0.25	0.5	205.0	6.7
TSMA2EZ300D5	2G6	300	1.5	2200	9000	0.25	0.5	228.0	5.9
TSMA2EZ330D5	2G7	330	1.4	2300	9000	0.25	0.5	250.0	5.4