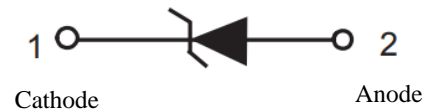
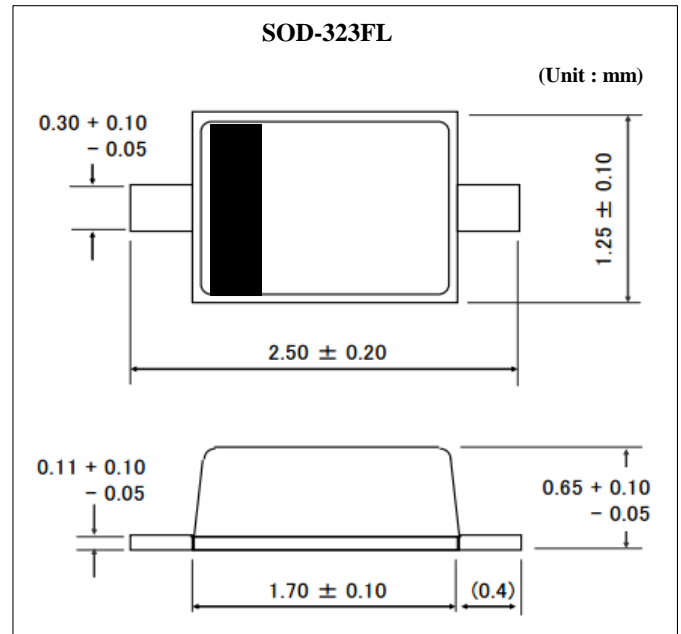


Zener Voltage Regulators
300mW Surface Mount Zener Diodes
Features

- Standard Zener Breakdown Voltage Range – 2.0 V to 75 V
- Total power dissipation : Max. 300 mW.
- Package Weight: 5.5 mg/unit
- Pb-Free package is available.
- Tolerance approximately $\pm 5\%$
- We declare that the material of product compliance with RoHS requirements

Mechanical Data

- Case : Void-free, transfer-molded plastic
- Finish : All external surface corrosion resistant
- Maximum Case Temperature for Soldering Purposes : 260°C for 10 Seconds
- Polarity : Cathode indicated by polarity band
- Flammability Rating : UL 94 V-0
- Mounting Position : Any


Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

Parameter	Symbol	Rated Value	Unit	Remark
Total Power Dissipation on FR-5 Board,(Note 1)at Ta=25 °C Derate above 25 °C	P _D	300	mW	
Forward Voltage at IF=10mA	V _F	0.9	V	
Thermal Resistance from Junction to Ambient	R _{th(j-a)}	417	°C/W	Note 1
Junction and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C	

Note 1. Thermal resistance from junction to ambient at P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper areas pads.

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted, $V_F = 0.9\text{ V Max.}$ @ $I_F = 10\text{ mA}$ for all types)

Device	Device Marking	Zener Voltage			I_{ZT} mA	Z_{ZT} @ I_{ZT} Ω	Leakage Current I_R @ V_R	
		V_Z (V)					I_R uA	V_R Volts
		Min	Nom	Max				
MM3Z2V0L	B0	1.80	2.0	2.15	5.0	100	120	0.5
MM3Z2V2L	C0	2.08	2.2	2.33	5.0	100	120	0.7
MM3Z2V4L	1C	2.20	2.4	2.56	5.0	100	120	1.0
MM3Z2V7L	1D	2.5	2.7	2.9	5.0	110	120	1.0
MM3Z3V0L	1E	2.8	3.0	3.2	5.0	120	50	1.0
MM3Z3V3L	1F	3.1	3.3	3.5	5.0	130	20	1.0
MM3Z3V6L	1H	3.4	3.6	3.8	5.0	130	10	1.0
MM3Z3V9L	1J	3.7	3.9	4.1	5.0	130	5.0	1.0
MM3Z4V3L	1K	4.0	4.3	4.6	5.0	130	5.0	1.0
MM3Z4V7L	1M	4.4	4.7	5.0	5.0	130	2.0	1.0
MM3Z5V1L	1N	4.8	5.1	5.4	5.0	130	2.0	1.5
MM3Z5V6L	1P	5.2	5.6	6.0	5.0	80	1.0	2.5
MM3Z6V2L	1R	5.8	6.2	6.6	5.0	50	1.0	3.0
MM3Z6V8L	1X	6.4	6.8	7.2	5.0	30	0.5	3.5
MM3Z7V5L	1Y	7.0	7.5	7.9	5.0	30	0.5	4.0
MM3Z8V2L	1Z	7.7	8.2	8.7	5.0	30	0.5	5.0
MM3Z9V1L	2A	8.5	9.1	9.6	5.0	30	0.5	6.0
MM3Z10VL	2B	9.4	10.0	10.6	5.0	30	0.1	7.0
MM3Z11VL	2C	10.4	11.0	11.6	5.0	30	0.1	8.0
MM3Z12VL	2D	11.4	12.0	12.7	5.0	35	0.1	9.0
MM3Z13VL	2E	12.4	13.25	14.1	5.0	35	0.1	10
MM3Z15VL	2F	13.8	15.0	15.8	5.0	40	0.1	11
MM3Z16VL	2H	15.3	16.2	17.1	5.0	40	0.1	12
MM3Z18VL	2J	16.8	18.0	19.1	5.0	45	0.1	13
MM3Z20VL	2K	18.8	20.0	21.2	5.0	50	0.1	15
MM3Z22VL	2M	20.8	22.0	23.3	5.0	55	0.1	17
MM3Z24VL	2N	22.8	24.2	25.6	5.0	60	0.1	19
MM3Z27VL	2P	25.1	27.0	28.9	2.0	70	0.1	21
MM3Z30VL	2R	28.0	30.0	32.0	2.0	80	0.1	23
MM3Z33VL	2X	31.0	33.0	35.0	2.0	80	0.1	25
MM3Z36VL	2Y	34.0	36.0	38.0	2.0	90	0.1	27
MM3Z39VL	2Z	37.0	39.0	41.0	2.0	100	0.1	30
MM3Z43VL	3A	40.0	43.0	46.0	2.0	130	0.1	33
MM3Z47VL	3B	44.0	47.0	50.0	2.0	150	0.1	36
MM3Z51VL	3C	48.0	51.0	54.0	2.0	180	0.1	39
MM3Z56VL	3D	52.0	56.0	60.0	2.0	200	0.1	43
MM3Z62VL	3E	58.0	62.0	66.0	2.0	215	0.1	47
MM3Z68VL	3F	64.0	68.0	72.0	2.0	240	0.1	52
MM3Z75VL	3H	70.0	75.0	79.0	2.0	265	0.1	56

Note 1. V_{ZT} is tested with pulses (20 ms)

Fig.1 Maximum Continuous Power Derating

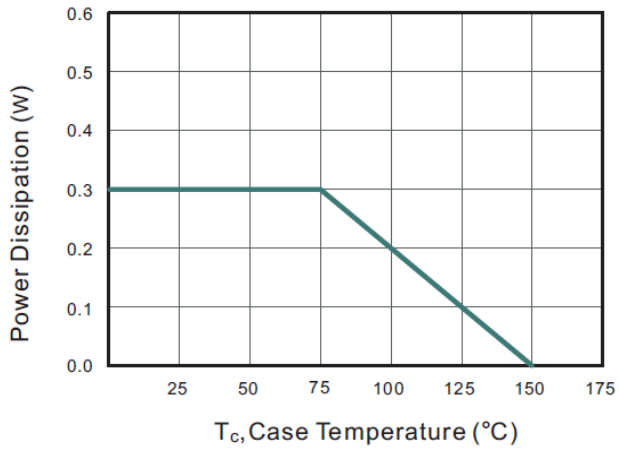


Fig.2 Typical Transient Thermal Impedance

