

## 500 mW DO-34 Hermetically Sealed Glass Zener Voltage Regulators



DEVICE MARKING DIAGRAM



L : Logo  
Device Code : TCMZxxx



ELECTRICAL SYMBOL

### Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

Parameter	Value	Units
Power Dissipation	500	mW
Storage Temperature Range	-65 to +175	$^\circ\text{C}$
Operating Junction Temperature	+175	$^\circ\text{C}$
Lead Temperature (1/16" from case for 10 seconds)	+230	$^\circ\text{C}$

These ratings are limiting values above which the serviceability of the diode may be impaired.

### Specification Features:

- Zener Voltage Range 2.0 to 75 Volts
- DO-34 Package (JEDEC DO-204)
- Through-Hole Device Type Mounting
- Hermetically Sealed Glass
- Compression Bonded Construction
- All External Surfaces Are Corrosion Resistant And Lads Are Readily Solderable
- RoHS Compliant
- Solder Hot Dip Tin (Sn) Terminal Finish
- Cathode Indicated By Polarity Band

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

Device Type	$V_Z @ I_{ZT}$ (Volts) Nominal	$I_{ZT}$ (mA)	$Z_{ZT} @ I_{ZT}$ ( $\Omega$ ) Max	$I_R @ V_R$ ( $\mu\text{A}$ ) Max	$V_R$ (Volts)
TCMZ2V0	2.0	5	100	120	0.5
TCMZ2V2	2.2	5	100	120	0.7
TCMZ2V4	2.4	5	100	120	1
TCMZ2V7	2.7	5	110	100	1
TCMZ3V0	3.0	5	120	50	1
TCMZ3V3	3.3	5	120	20	1
TCMZ3V6	3.6	5	100	10	1
TCMZ3V9	3.9	5	100	5	1
TCMZ4V3	4.3	5	100	5	1
TCMZ4V7	4.7	5	80	5	1
TCMZ5V1	5.1	5	80	5	1.5
TCMZ5V6	5.6	5	60	5	2.5
TCMZ6V2	6.2	5	60	5	3
TCMZ6V8	6.8	5	20	2	3.5
TCMZ7V5	7.5	5	20	0.5	4
TCMZ8V2	8.2	5	20	0.5	5
TCMZ9V1	9.1	5	25	0.5	6
TCMZ10V	10	5	30	0.2	7
TCMZ11V	11	5	30	0.2	8
TCMZ12V	12	5	30	0.2	9
TCMZ13V	13	5	35	0.2	10
TCMZ15V	15	5	40	0.2	11

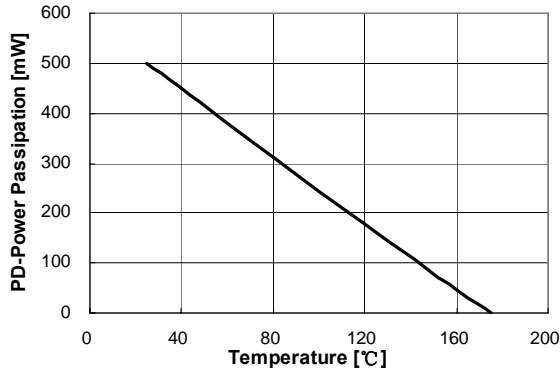
**Electrical Characteristics**  $T_A = 25^\circ\text{C}$  unless otherwise noted

Device Type	$V_Z @ I_{ZT}$ (Volts) Nominal	$I_{ZT}$ (mA)	$Z_{ZT} @ I_{ZT}$ ( $\Omega$ ) Max	$I_R @ V_R$ ( $\mu\text{A}$ ) Max	$V_R$ (Volts)
TCMZ16V	16	5	40	0.2	12
TCMZ18V	18	5	45	0.2	13
TCMZ20V	20	5	45	0.2	15
TCMZ22V	22	5	30	0.2	17
TCMZ24V	24	5	35	0.2	19
TCMZ27V	27	2	45	0.2	21
TCMZ30V	30	2	55	0.2	23
TCMZ33V	33	2	65	0.2	25
TCMZ36V	36	2	75	0.2	27
TCMZ39V	39	2	85	0.2	30
TCMZ43V	43	2	90	0.2	33
TCMZ47V	47	2	90	0.2	36
TCMZ51V	51	2	110	0.2	39
TCMZ56V	56	2	110	0.2	43
TCMZ62V	62	2	201	0.2	47
TCMZ68V	68	2	230	0.2	51
TCMZ75V	75	2	240	0.2	56

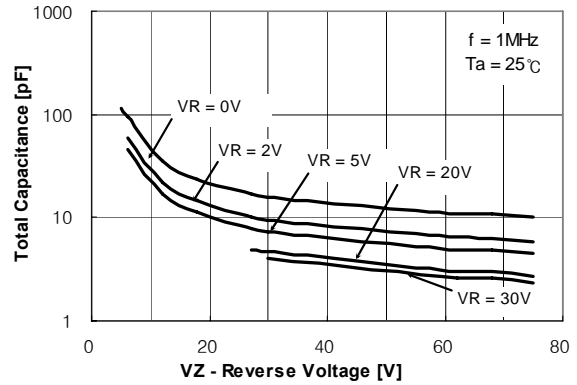
$V_F$  Forward Voltage = 1.2 V Maximum @  $I_F = 200$  mA for all types

**Notes:**

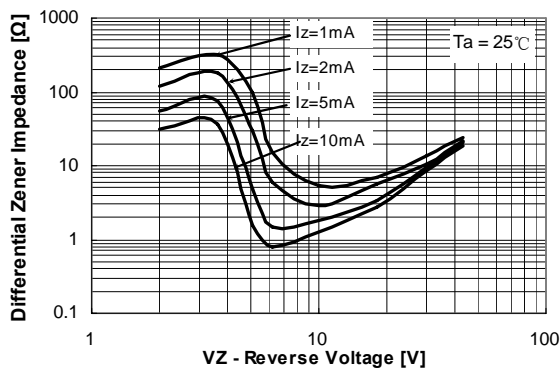
1. The type numbers listed have zener voltage min/max limits as shown and have a standard tolerance on the nominal zener voltage of 5%.
2. For detailed information on price, availability and delivery of nominal zener voltages between the voltages shown and tighter voltage tolerances, contact your nearest Tak Cheong Electronics representative.
3. The zener impedance is derived from the 60-cycle ac voltage, which results when an ac current having an rms value equal to 10% of the dc zener current ( $I_{ZT}$  or  $I_{ZK}$ ) is superimposed to  $I_{ZT}$  or  $I_{ZK}$ .

**Typical Characteristics**


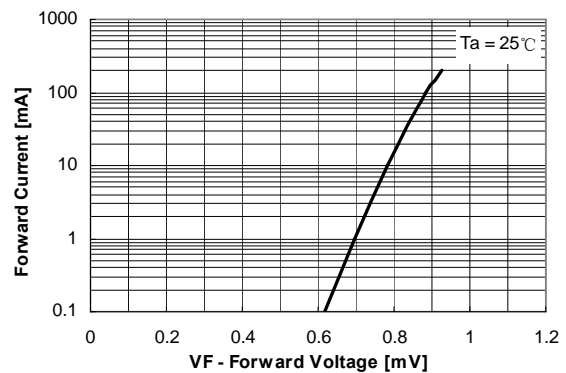
**Figure 1. Power Dissipation vs Ambient Temperature**  
Valid provided leads at a distance of 0.8mm from case are kept at ambient temperature



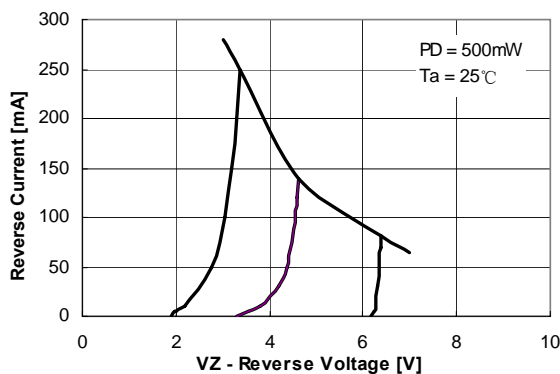
**Figure 2. Total Capacitance**



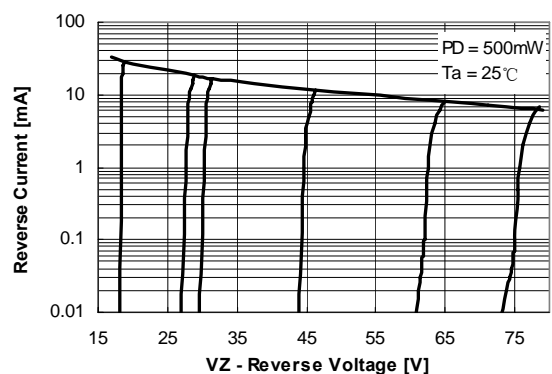
**Figure 3. Differential Impedance vs. Zener Voltage**



**Figure 4. Forward Current vs. Forward Voltage**

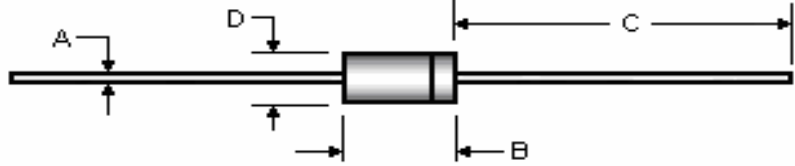


**Figure 5. Reverse Current vs. Reverse Voltage**



**Figure 6. Reverse Current vs. Reverse Voltage**

Package Outline

Package	Case Outline				
DO-34					
	<b>DO-34</b>				
	<b>DIM</b>	<b>Millimeters</b>		<b>Inches</b>	
		Min	Max	Min	Max
	<b>A</b>	0.46	0.55	0.018	0.022
	<b>B</b>	2.16	3.04	0.085	0.120
<b>C</b>	25.40	38.10	1.000	1.500	
<b>D</b>	1.27	1.90	0.050	0.075	

Notes:

1. All dimensions are within JEDEC standard.
2. DO34 polarity denoted by cathode band.

## **NOTICE**

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