

## 1 Watt LL-41 Hermetically Sealed Glass Zener Voltage Regulators



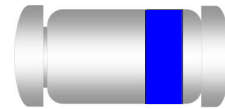
SURFACE MOUNT  
LL-41

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

Parameter	Value	Units
Storage Temperature Range	-65 to +200	$^\circ\text{C}$
Maximum Junction Operating Temperature	+175	$^\circ\text{C}$
Total Device Dissipation	1.0	Watt
Thermal Resistance Junction to Ambient	170	$^\circ\text{C} / \text{W}$

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

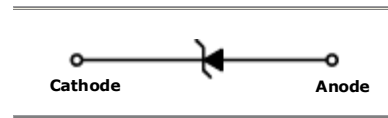
### DEVICE MARKING DIAGRAM



Cathode Band Color: Blue

### Specification Features:

- Zener Voltage Range 3.3 to 56 Volts
- LL-41 MELF Package (JEDEC DO-213AB)
- Surface Mount Devices (SMD)
- Hermetically Sealed Glass
- Compression Bonded Construction
- All External Surfaces Are Corrosion Resistant And Terminals Are Readily Solderable
- RoHS Compliant
- Matte Tin (Sn) Lead Finish
- Color band Indicates Negative Polarity



ELECTRICAL SYMBOL

### 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	$I_{ZK}$ (mA)	$Z_{ZK} @ I_{ZK}$ ( $\Omega$ ) Max	$I_R @ V_R$ ( $\mu\text{A}$ ) Max	$V_R$ (Volts)
ZM4728A	3.3	76	10	1	400	100	1
ZM4729A	3.6	69	10	1	400	100	1
ZM4730A	3.9	64	9	1	400	50	1
ZM4731A	4.3	58	9	1	400	10	1
ZM4732A	4.7	53	8	1	500	10	1
ZM4733A	5.1	49	7	1	550	10	1
ZM4734A	5.6	45	5	1	600	10	2
ZM4735A	6.2	41	2	1	700	10	3
ZM4736A	6.8	37	3.5	1	700	10	4
ZM4737A	7.5	34	4	0.5	700	10	5
ZM4738A	8.2	31	4.5	0.5	700	10	6
ZM4739A	9.1	28	5	0.5	700	10	7
ZM4740A	10	25	7	0.25	700	10	7.6
ZM4741A	11	23	8	0.25	700	5	8.4
ZM4742A	12	21	9	0.25	700	5	9.1
ZM4743A	13	19	10	0.25	700	5	9.9
ZM4744A	15	17	14	0.25	700	5	11.4
ZM4745A	16	15.5	16	0.25	700	5	12.2
ZM4746A	18	14	20	0.25	700	5	13.7

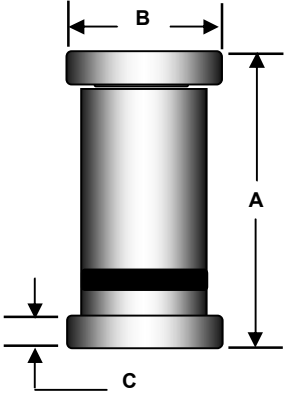
**Electrical Characteristics** $T_A = 25^\circ\text{C}$  unless otherwise noted

Device Type	VZ @ IZT (Volts) Nominal	IZT (mA)	ZZT @ IZT ( $\Omega$ ) Max	IZK (mA)	ZZK @ IZK ( $\Omega$ ) Max	IR @ VR ( $\mu\text{A}$ ) Max	VR (Volts)
ZM4747A	20	12.5	22	0.25	750	5	15.2
ZM4748A	22	11.5	23	0.25	750	5	16.7
ZM4749A	24	10.5	25	0.25	750	5	18.2
ZM4750A	27	9.5	35	0.25	750	5	20.6
ZM4751A	30	8.5	40	0.25	1000	5	22.8
ZM4752A	33	7.5	45	0.25	1000	5	25.1
ZM4753A	36	7	50	0.25	1000	5	27.4
ZM4754A	39	6.5	60	0.25	1000	5	29.7
ZM4755A	43	6	70	0.25	1500	5	32.7
ZM4756A	47	5.5	80	0.25	1500	5	35.8
ZM4757A	51	5	95	0.25	1500	5	38.8
ZM4758A	56	4.5	110	0.25	2000	5	42.6

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

1. The device numbers listed have a standard tolerance on the nominal zener voltage of  $\pm 5\%$ .
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's 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  $I_{ZK}$ .

## Package Outline

Package	Case Outline				
LL- 41 MELF			<b>LL- 41 MELF</b>		
			<b>Millimeters</b>		<b>Inches</b>
		Min	Max	Min	Max
		<b>A</b>	4.80    5.20	0.189	0.205
		<b>B</b>	2.39    2.66	0.094	0.105
		<b>C</b>	0.41    0.55	0.016	0.022

**Notes:**

1. All dimensions are within DO-213AB JEDEC standard.
2. LL-41 MELF polarity denoted by cathode band.



## NOTICE

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