

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.

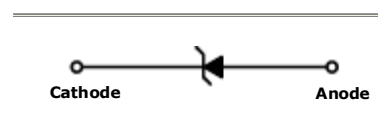
DEVICE MARKING DIAGRAM



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)	$Z_{ZT} @ I_{ZT}$ (Ω) Max	I_{ZK} (mA)	$Z_{ZK} @ I_{ZK}$ (Ω) Max	$I_R @ V_R$ (μA) 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

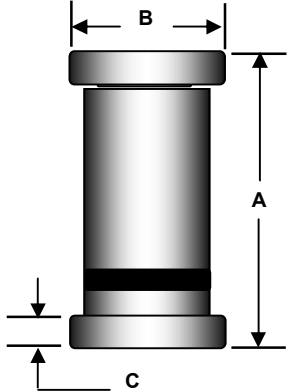
**Electrical Characteristics** $T_A = 25^{\circ}\text{C}$ unless otherwise noted

Device Type	VZ @ IZT (Volts) Nominal	IZT (mA)	ZZT @ IZT (Ω) Max	IZK (mA)	ZZK @ IZK (Ω) Max	IR @ VR (μA) 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																																	
	<table><tr><th rowspan="3">DIM</th><th colspan="4">LL- 41 MELF</th></tr><tr><th colspan="2">Millimeters</th><th colspan="2">Inches</th></tr><tr><th>Min</th><th>Max</th><th>Min</th><th>Max</th></tr><tr><td>A</td><td>4.80</td><td>5.20</td><td>0.189</td><td>0.205</td></tr><tr><td>B</td><td>2.39</td><td>2.66</td><td>0.094</td><td>0.105</td></tr><tr><td>C</td><td>0.41</td><td>0.55</td><td>0.016</td><td>0.022</td></tr></table>					DIM	LL- 41 MELF				Millimeters		Inches		Min	Max	Min	Max	A	4.80	5.20	0.189	0.205	B	2.39	2.66	0.094	0.105	C	0.41	0.55	0.016	0.022
	DIM	LL- 41 MELF																															
		Millimeters		Inches																													
		Min	Max	Min	Max																												
A	4.80	5.20	0.189	0.205																													
B	2.39	2.66	0.094	0.105																													
C	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

The information presented in this document is for reference only. Tak Cheong reserves the right to make changes without notice for the specification of the products displayed herein.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Tak Cheong Semiconductor Co., Ltd., or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website <http://www.takcheong.com>, or consult your nearest Tak Cheong's sales office for further assistance.