

500mW, 2.4V - 56V Surface Mount Zener Diode

FEATURES

- Wide Zener voltage range selection: 2.4V to 56V
- Hermetically sealed glass
- RoHS Compliant

APPLICATIONS

- Low voltage stabilizers or voltage references
- Adapters
- Lighting application
- On-board DC/DC converter

MECHANICAL DATA

- Case: MMELF
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Polarity: Indicated by cathode band
- Weight: 30.60mg (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
V_Z	2.4 - 56	V
Test current I_{ZT}	2.2 - 20	mA
P_D	500	mW
V_F at $I_F = 200\text{mA}$	1.1	V
$T_{J\text{ MAX}}$	200	°C
Package	MMELF	
Configuration	Single die	



MMELF



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Power dissipation	P_D	500	mW
Forward voltage @ $I_F = 200\text{mA}$	V_F	1.1	V
Junction temperature range	T_J	-65 to +200	°C
Storage temperature range	T_{STG}	-65 to +200	°C

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PART NUMBER	ZENER VOLTAGE	TEST CURRENT	REGULAR IMPEDANCE		TEST CURRENT	LEAKAGE CURRENT	
	$V_Z @ I_{ZT}$	I_{ZT}	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$	I_{ZK}	$I_R @ V_R$	
	V	mA	Ω	Ω	mA	μA	V
	Nom		Max	Max		Max	
LLZ5221B	2.4	20	30	1200	0.25	100	1.0
LLZ5222B	2.5	20	30	1250	0.25	100	1.0
LLZ5223B	2.7	20	30	1300	0.25	75	1.0
LLZ5224B	2.8	20	30	1400	0.25	75	1.0
LLZ5225B	3.0	20	30	1600	0.25	50	1.0
LLZ5226B	3.3	20	28	1600	0.25	25	1.0
LLZ5227B	3.6	20	24	1700	0.25	15	1.0
LLZ5228B	3.9	20	23	1900	0.25	10	1.0
LLZ5229B	4.3	20	22	2000	0.25	5.0	1.0
LLZ5230B	4.7	20	19	1900	0.25	5.0	2.0
LLZ5231B	5.1	20	17	1600	0.25	5.0	2.0
LLZ5232B	5.6	20	11	1600	0.25	5.0	3.0
LLZ5233B	6.0	20	7	16900	0.25	5.0	3.5
LLZ5234B	6.2	20	7	1000	0.25	5.0	4.0
LLZ5235B	6.8	20	5	750	0.25	3.0	5.0
LLZ5236B	7.5	20	6	500	0.25	3.0	6.0
LLZ5237B	8.2	20	8	500	0.25	3.0	6.5
LLZ5238B	8.7	20	8	600	0.25	3.0	6.5
LLZ5239B	9.1	20	10	600	0.25	2.0	7.0
LLZ5240B	10	20	17	600	0.25	1.0	8.0
LLZ5241B	11	20	22	600	0.25	0.5	8.4
LLZ5242B	12	20	30	600	0.25	0.1	9.1
LLZ5243B	13	9.5	13	600	0.25	0.1	9.9
LLZ5244B	14	9.0	15	600	0.25	0.1	10
LLZ5245B	15	8.5	16	600	0.25	0.1	11
LLZ5246B	16	7.8	17	600	0.25	0.1	12
LLZ5247B	16	7.4	19	600	0.25	0.1	13
LLZ5248B	18	7.0	21	600	0.25	0.1	14
LLZ5249B	19	6.6	23	600	0.25	0.1	14
LLZ5250B	20	6.2	25	600	0.25	0.1	15
LLZ5251B	22	5.6	29	600	0.25	0.1	17
LLZ5252B	24	5.2	33	600	0.25	0.1	18
LLZ5253B	25	5.0	35	600	0.25	0.1	19
LLZ5254B	27	5.0	41	600	0.25	0.1	21
LLZ5255B	28	4.5	44	600	0.25	0.1	21
LLZ5256B	30	4.2	49	600	0.25	0.1	23
LLZ5257B	33	3.8	58	700	0.25	0.1	25
LLZ5258B	36	3.4	70	700	0.25	0.1	27
LLZ5259B	39	3.2	80	800	0.25	0.1	30
LLZ5260B	43	3.0	93	900	0.25	0.1	33
LLZ5261B	47	2.7	105	1000	0.25	0.1	36
LLZ5262B	51	2.5	125	1100	0.25	0.1	39
LLZ5263B	56	2.2	150	1300	0.25	0.1	43

Notes:

- The type numbers listed have Zener voltage as shown and have a standard tolerance on the nominal Zener voltage of $\pm 5\%$ in Blue marking, suffix A= $\pm 10\%$ in Orange marking and D= $\pm 1\%$ in Yellow marking.

2. For detailed information on price, availability and delivery of nominal Zener voltages between the voltages shown and tighter voltage tolerances, contact your nearest Taiwan Semiconductor representative
3. The Zener impedance is derived from the 60-cycle AC voltage, which results when an AC current having an R_{MS} value equal to 10% of the dc Zener current (I_{ZT} or I_{ZK}) is superimposed to I_{ZT} or I_{ZK}

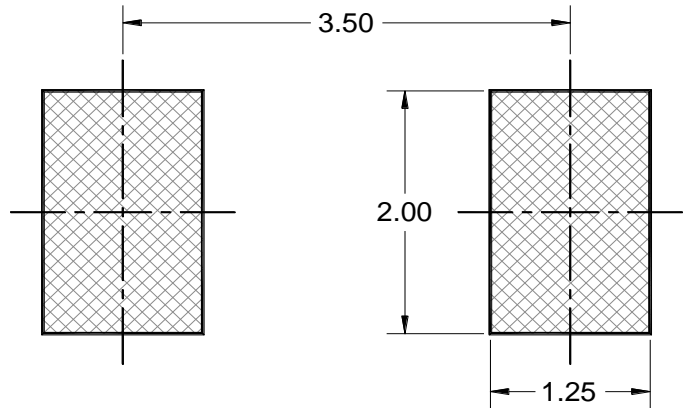
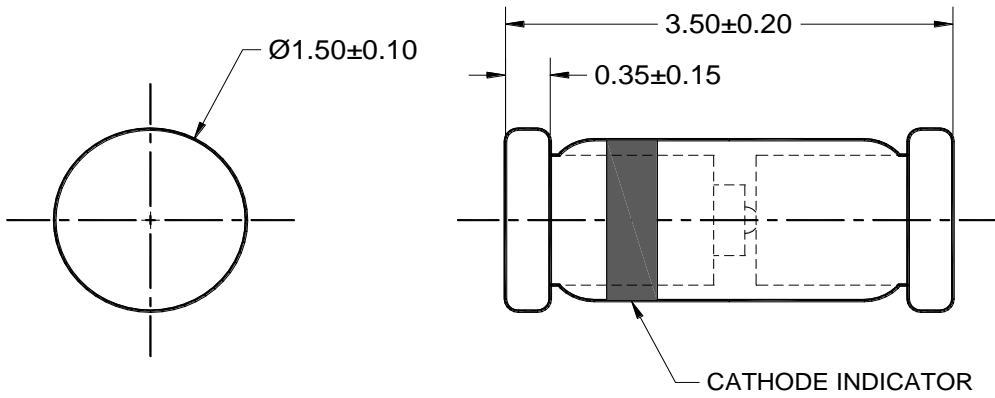
ORDERING INFORMATION		
ORDERING CODE⁽¹⁾⁽²⁾	PACKAGE	PACKING
LLZ52xB L0	MMELF	10,000 / 13" Tape & Reel
LLZ52xB L0G	MMELF	10,000 / 13" Tape & Reel

Notes:

1. "x" defines voltage from 2.4V (LLZ5221B) to 56V (LLZ5263B)
2. Above ordering codes L0/L0G refer to physically identical parts without any differences.

PACKAGE OUTLINE DIMENSIONS

MMELF



SUGGESTED PAD LAYOUT

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
3. PACKAGE OUTLINE REFERENCE: JEDEC DO-213, VARIATION AA, ISSUE D.
4. DWG NO. REF: HQ2SD07-MMELFG-044 REV A.

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies.

Purchasers are solely responsible for the choice, selection, and use of TSC products and TSC assumes no liability for application assistance or the design of Purchasers' products.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.