

# FrelTec

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Germany

## Surface Mount Zener DIODE SMAF

## SMA

## Surface Mount Zener DIODE

## SPECIFICATION

60B		LZ1__xxxx		SMAX		L10
Type		Type		Package		Packing
60B: ZENER DIODE		LZ1__		SMAF		L10: Embossed tape and reel for 10k pcs(13" reel)

All products according to RoHS (2015/863/EU)

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SMA

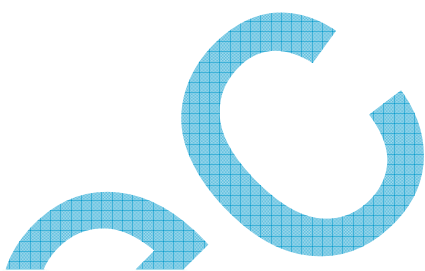
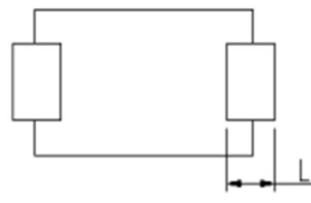
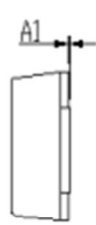
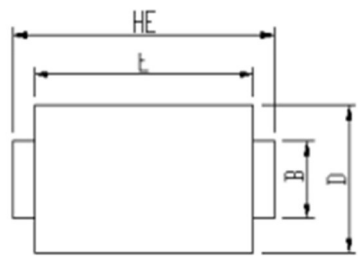
Surface Mount Zener DIODE  
LZ1110 thru LZ1200

PACKAGE OUTLINE



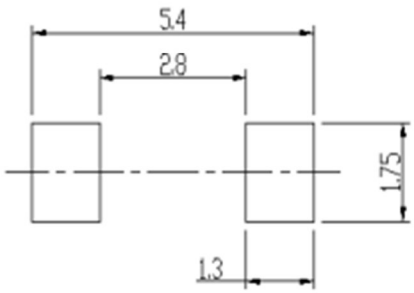
eSGB (SMAF)

DIMENSIONS



DIM	Unit: mm		Unit: inch	
	MIN	MAX	MIN	MAX
A	0.92	1.08	0.036	0.043
A1	0	0.1	0.000	0.004
B	1.25	1.45	0.049	0.057
C	0.1	0.25	0.004	0.010
D	2.6	2.8	0.102	0.110
E	4.1	4.3	0.161	0.169
L	0.7	1.1	0.028	0.043
HE	4.8	5.2	0.189	0.205

Soldering footprint



MAXIMUM RATINGS AND THERMAL CHARACTERISTICS  
Rating at 25°C ambient temperature unless otherwise specified

Parameter	Symbols	Value	Unit
Zener current		See Next Table	
Power Dissipation at $T_{amb} = 75^{\circ}\text{C}$	$P_{tot}$	1	W
Maximum instantaneous forward voltage at 200mA	$V_F$	1,2	V
Thermal resistance junction to ambient air	$R_{thja}$	100	$^{\circ}\text{C/W}$
Operation junction and storage Temperature	$T_J, T_{STG}$	-65 to +175	$^{\circ}\text{C}$

Note: 1), The thermal resistance from junction to ambient, case or mount, mounted on P.C.B with 5x5mm copper pads, 2 OZ, FR4 PCB

### Electrical Characteristics $T_A = 25^{\circ}\text{C}$ Unless otherwise specified

Part No.	Nominal Zener Voltage		Test current	Dynamic impedance	Knee current	Knee current	Reverse Current	Reverse Voltage	Max. DC current
	$V_Z/V$		$I_{ZT}$	$Z_{zt}$	$I_{zk}$	$Z_{zk}$	$I_R(\text{Max})$	$V_R$	$I_{ZM}$
	$V_Z(\text{MIN})$	$V_Z(\text{MAX})$	mA	$\Omega$	mA	$\Omega$	$\mu\text{A}_{dc}$	V	mA
LZ1110	104,5	115,5	2,3	450	0,25	4000	5	83,6	8,6
LZ1120	114	126	2	550	0,25	4500	5	91,2	7,8
LZ1130	123,5	136,5	1,9	700	0,25	5000	5	98,8	7
LZ1150	142,5	157,5	1,7	1000	0,25	6000	5	114	6,4
LZ1160	152	168	1,6	1100	0,25	6500	5	121,6	5,8
LZ1180	171	189	1,4	1200	0,25	7000	5	136,8	5,2
LZ1200	190	210	1,2	1900	0,25	9990	5	152	4,7

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## RATINGS AND CHARACTERISTICS CURVES

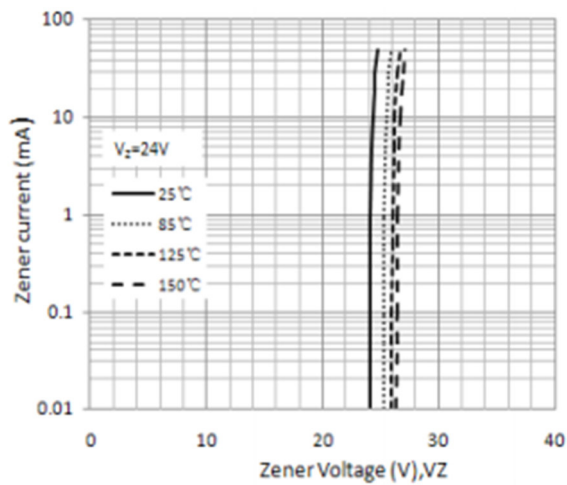


Figure 1. Typical Zener Voltage

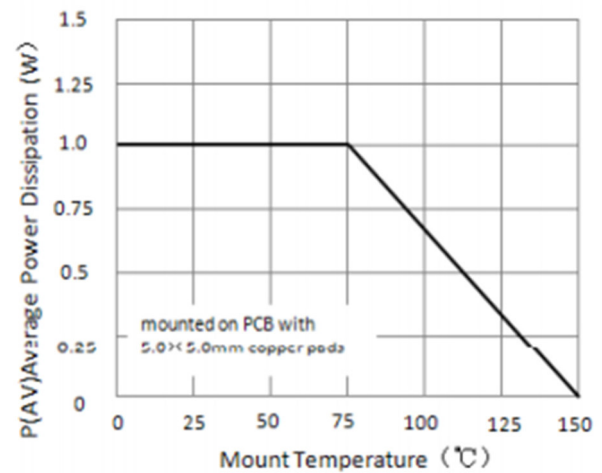


Figure 2. Steady State POWER Derating

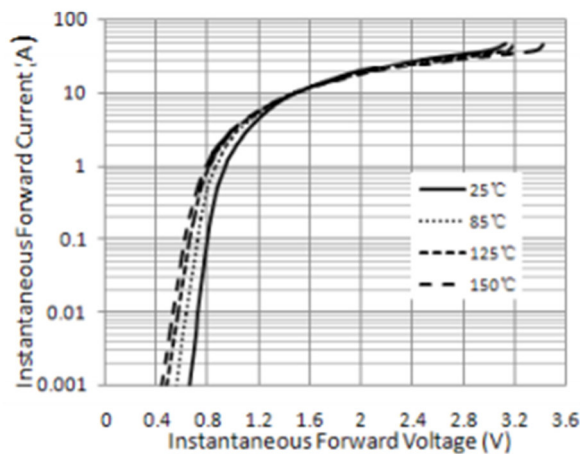


Figure 3. Typical Instantaneous Forward Characteristics

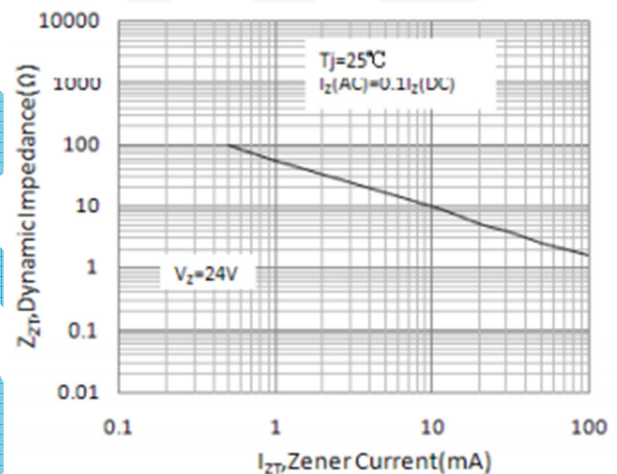


Figure 4. Typical Zener Impedance

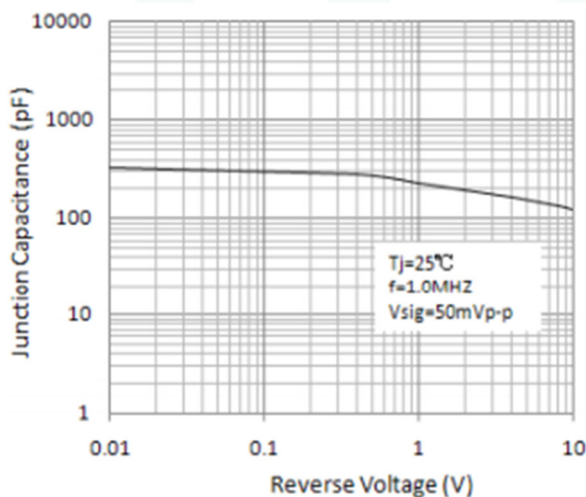
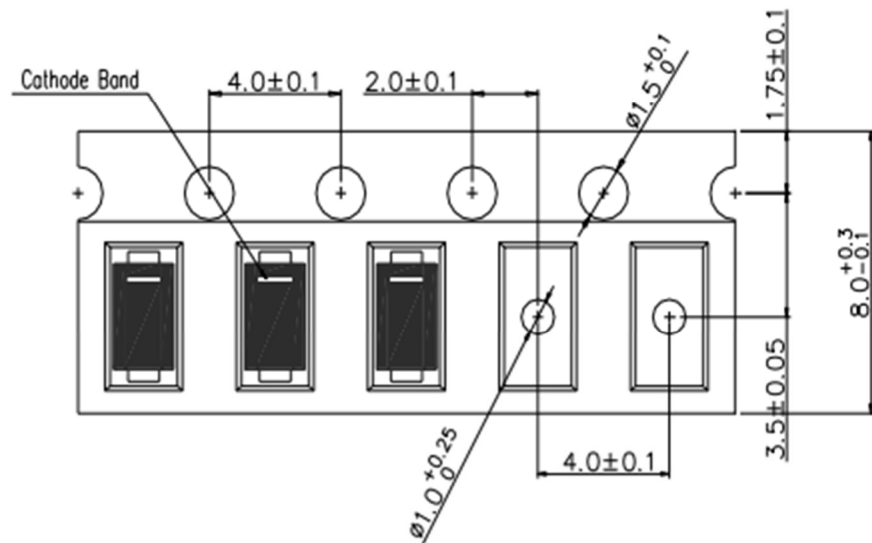


Figure 5. Typical Junction Capacitance

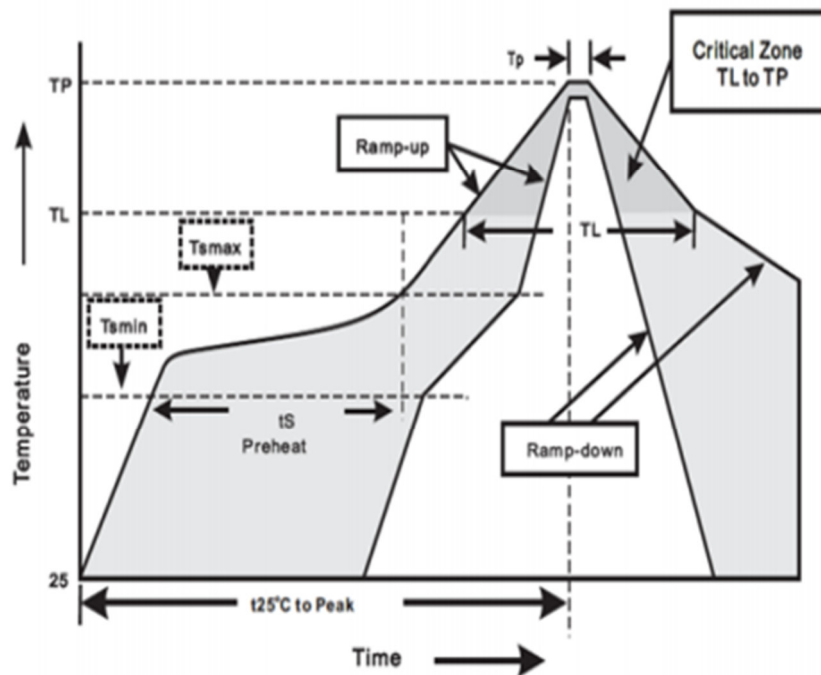
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## Tape &amp; Reel Specification



## **Soldering Parameters**



### **Stock period**

The performance of these products, including the solderability, is guaranteed for 12 month, provided that they remain packed as they were when delivered and stored at a temperature of 20-30°C and a relative humidity 20-60%RH

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Please read cautions and warnings and important notes at the end of this document.

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