

CHIP ZENER DIODE SOD-123

Voltage : 2.4V ~ 91V

Power: 0.5Watt



HZD5221B ~ HZD5270B

APPLICATION
Voltage regulator

FEATURE

High temperature soldering type.
ESD rating of class 3(>18KV) per human body mode.
Silicon planar zener diodes.
Silicon -oxide passivated junction.
Low temperature coefficient voltage.
500mW Rating on FR-4 or FR-5 Board.
Withstand 275°C soldering temperature.

MECHANICAL

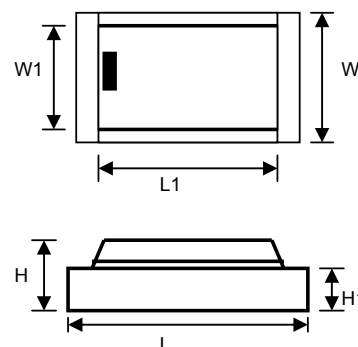
Void-Free Transfer-molded, Thermosetting plastic case.
SOD-123 Packaging
Cathode indicated by polarity band.
Mounting position: Any.

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified

DIMENSION (mm)
HZD5221B ~ HZD5270B
W: 1.60mm
W1: 1.25mm
L1: 2.85mm
H: 0.93mm
H1: 0.55mm
L: 3.60mm

CIRCUIT



MAXIMUM RATING (At Ta = 25°C unless otherwise noted)

RATING	SYMBOL	Value	UNITS
Zener Current (See Table "Characteristics")	-	-	-
Max. Steady Power Dissipation @TA=25°C	P _D	500	mW
Max. Operating Temperature Range.	T _J	-65 to +150	°C
Storage Temperature.	T _{STG}	-65 to +150	°C

ELECTRICAL CHARACTERISTICS (At Ta = 25°C unless otherwise noted)

CHARACTERISTICS	SYMBOL	MIN.	TYP.	MAX.	UNITS
Thermal Resistance Junction to Ambient	R _{θJA}	-	-	350	°C/W
Max. Instantaneous Forward Voltage at IF = 100mA	V _F	-	-	0.9	Volts

Package:

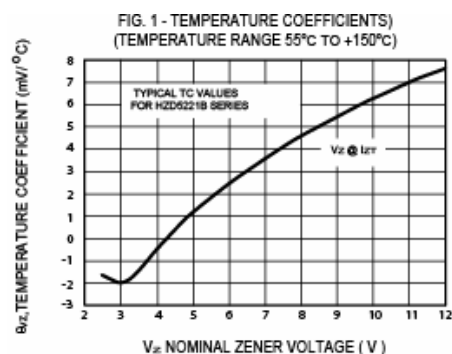
Part No.	HZD5221B~HZD5270B
Reel:	4K Pcs
G.W.	0.16 Kg / Reel
Box:	40K Pcs
Carton:	240K PCS
C/Size:	41x39x21cm
G.W.:	10Kg / Carton
Brand:	SINLOON

NOTES:

- The JEDEC type numbers listed have a standard tolerance on the nominal zener voltage of ±10%. Suffix B=±5%
- The zener impedance is derived from 1KHz AC voltage, which results when an AC current having an RMS value equal to 10% of DC zener current (I_{zt} or I_{zk}) is superimposed on T_{zr} or T_{zk}. Zener impedance is measured at two points to insure a sharp knee on the breakdown curve to eliminate unstable units.
- Valid provided that electrodes at distance of 10mm from case are kept ambient temperature.
- Measured under thermal equilibrium and DC test conditions.
- The rating listed in the electrical characteristics table is maximum peak. Non-repetitive, reverse of 1/2 square wave of equivalent sine wave pulse of 1/120 second duration superimposed on the test, I_{zt} per JEDEC registration.



RATING CHARACTERISTICS CURVES



8mV/°C

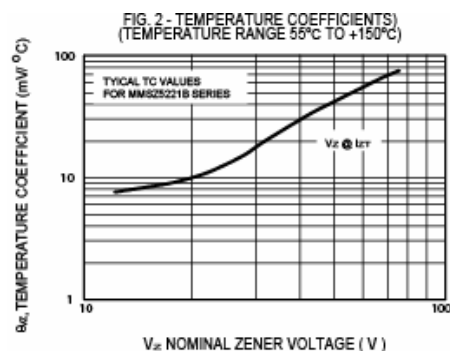


FIG. 3 - EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

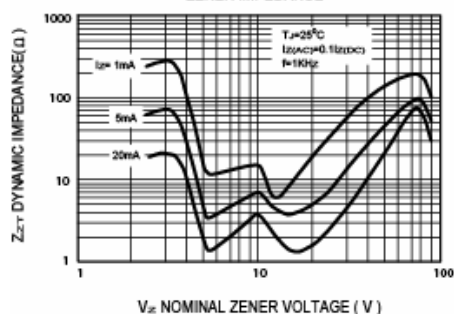
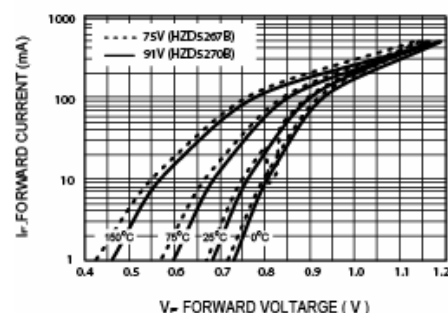


FIG. 4 - TYPICAL FORWARD VOLTAGE



CHIP ZENER DIODE SOD-123

RATING CHARACTERISTICS CUVES

FIG. 5 - STEADY STATE POWER DERATING

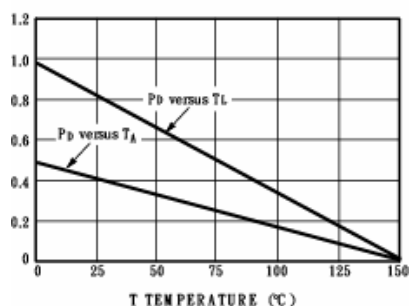


FIG. 7 - TYPICAL CAPACITANCE

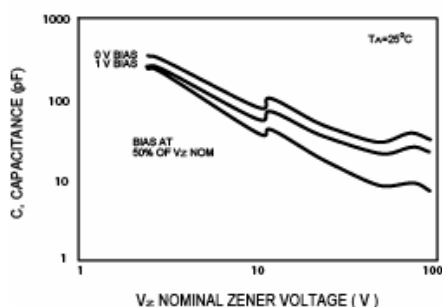


FIG. 9 - ZENER VOLTAGE VERSUS ZENER CURRENT (Vz UP TO 12V)

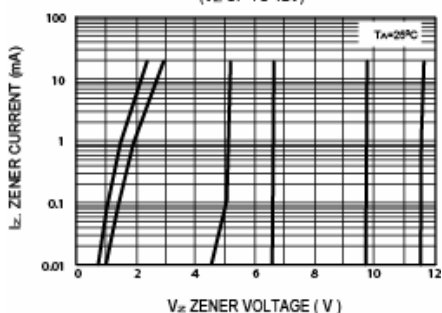


FIG. 6 - MAXIMUM NONREPETITIVE SURGE POWER

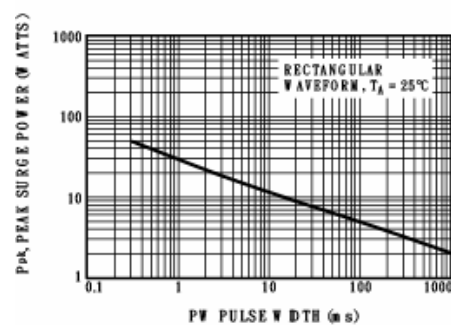


FIG. 8 - TYPICAL LEAKAGE CURRENT

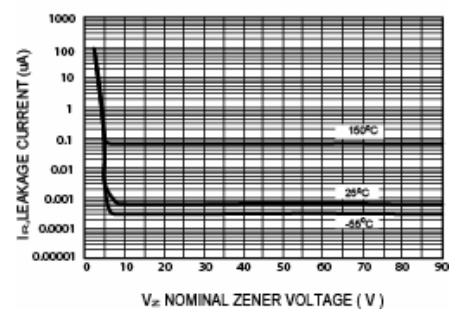
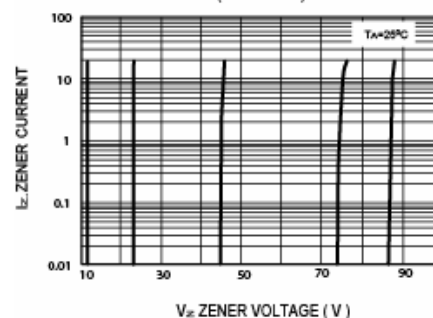


FIG. 10 - ZENER VOLTAGE VERSUS ZENER CURRENT (12V TO 91V)



CHIP ZENER DIODE SOD-123

RATING CHARATERISTIC CURVES - HZD5221B ~ HZD5270B

TYPE	Zener Diode Vz(V) @Izt			Test Current	Maximum Zener Inpedance			Maximum Reverse Leakage Current		Type Temp. coefficient at Ta=25°C $\theta_{VZ}(\%/^{\circ}\text{C})$	Max. Regulator Current Ta=50°C Izm (mA)
	Min	Nom	Max		Zzt at	Zzk (Ω)	At Izk (mA)				
	Voltage	Voltage	Voltage		Izt (Ω)			IR (uA)	at VR (V)		
HZD5221B	2.280	2.4	2.520	20	30	1200	0.25	100	1.0	-0.085	190.0
HZD5222B	2.375	2.5	2.625	20	30	1250	0.25	100	1.0	-0.085	182.0
HZD5223B	2.565	2.7	2.835	20	30	1300	0.25	75	1.0	-0.080	168.0
HZD5224B	2.660	2.8	2.940	20	30	1400	0.25	75	1.0	-0.080	162.0
HZD5225B	2.850	3.0	3.150	20	29	1600	0.25	50	1.0	-0.075	152.0
HZD5226B	3.135	3.3	3.456	20	28	1600	0.25	25	1.0	-0.070	138.0
HZD5227B	3.420	3.6	3.780	20	24	1700	0.25	15	1.0	-0.065	126.0
HZD5228B	3.705	3.9	4.095	20	23	1900	0.25	10	1.0	-0.060	115.0
HZD5229B	4.085	4.3	4.515	20	22	2000	0.25	5	1.0	-0.055	106.0
HZD5230B	4.465	4.7	4.935	20	19	1900	0.25	5	2.0	+0.03	97.0
HZD5231B	4.845	5.1	5.355	20	17	1600	0.25	5	2.0	+0.03	89.0
HZD5232B	5.320	5.6	5.880	20	11	1600	0.25	5	3.0	+0.038	81.0
HZD5233B	5.700	6.0	6.300	20	7	1600	0.25	5	3.5	+0.038	76.0
HZD5234B	5.890	6.2	6.510	20	7	1000	0.25	5	4.0	+0.045	73.0
HZD5235B	6.460	6.8	7.140	20	5	750	0.25	3	5.0	+0.050	67.0
HZD5236B	7.125	7.5	7.875	20	6	500	0.25	3	6.0	+0.058	61.0
HZD5237B	7.790	8.2	8.160	20	8	500	0.25	3	6.5	+0.062	55.0
HZD5238B	8.265	8.7	9.135	20	8	600	0.25	3	6.5	+0.065	52.0
HZD5239B	8.645	9.1	9.555	20	10	600	0.25	3	7.0	+0.068	50.0
HZD5240B	9.500	10	10.50	20	17	600	0.25	3	8.0	+0.075	45.0
HZD5241B	10.45	11	11.55	20	22	600	0.25	2	8.4	+0.076	41.0
HZD5242B	11.40	12	12.60	20	30	600	0.25	1	9.1	+0.077	38.0
HZD5243B	12.35	13	13.65	9.5	13	600	0.25	0.5	9.9	+0.079	35.0
HZD5244B	13.30	14	14.70	9.0	15	600	0.25	0.1	10	+0.082	32.0
HZD5245B	14.25	15	15.75	8.5	16	600	0.25	0.1	11	+0.082	30.0
HZD5246B	15.20	16	16.80	7.8	17	600	0.25	0.1	12	+0.083	28.0
HZD5247B	16.15	17	17.85	7.4	19	600	0.25	0.1	13	+0.084	27.0
HZD5248B	17.10	18	18.90	7.0	21	600	0.25	0.1	14	+0.085	25.0
HZD5249B	18.05	19	19.95	6.6	23	600	0.25	0.1	15	+0.086	24.0
HZD5250B	19.00	20	21.00	6.2	25	600	0.25	0.1	16	+0.086	23.0
HZD5251B	20.90	22	23.10	5.6	29	600	0.25	0.1	17	+0.087	21.0
HZD5252B	22.80	24	25.20	5.2	33	600	0.25	0.1	18	+0.088	19.1
HZD5253B	23.75	25	26.25	5.0	35	600	0.25	0.1	19	+0.089	18.2
HZD5254B	25.65	27	28.35	4.6	41	600	0.25	0.1	21	+0.090	16.8
HZD5255B	26.60	28	29.40	4.5	44	600	0.25	0.1	21	+0.091	16.2
HZD5256B	28.50	30	31.50	4.2	49	600	0.25	0.1	23	+0.091	15.1
HZD5257B	31.35	33	34.65	3.8	58	700	0.25	0.1	25	+0.092	13.8
HZD5258B	34.20	36	37.80	3.4	70	700	0.25	0.1	27	+0.093	13.8
HZD5259B	37.05	39	40.95	3.2	80	800	0.25	0.1	30	+0.094	12.6
HZD5260B	40.85	43	45.15	3.0	93	900	0.25	0.1	33	+0.095	11.6
HZD5261B	44.65	47	49.35	2.7	105	1000	0.25	0.1	36	+0.095	10.6
HZD5262B	48.45	51	53.55	2.5	125	1100	0.25	0.1	39	+0.096	9.7
HZD5263B	53.20	56	58.80	2.2	150	1300	0.25	0.1	43	+0.096	8.9
HZD5264B	57.00	60	65.10	2.1	170	1400	0.25	0.1	36	+0.097	11.6
HZD5265B	58.90	62	65.10	2.0	185	1400	0.25	0.1	47	+0.097	-
HZD5266B	64.40	68	71.40	1.8	230	1600	0.25	0.1	52	+0.097	-
HZD5267B	71.25	75	78.75	1.7	270	1700	0.25	0.1	56	+0.098	-
HZD5268B	77.90	82	86.10	1.5	330	2000	0.25	0.1	62	+0.098	-
HZD5269B	82.65	87	91.35	1.4	370	2200	0.25	0.1	68	+0.098	-
HZD5270B	86.45	91	95.00	1.4	400	2300	0.25	0.1	69	+0.098	-

CHIP ZENER DIODE SOD-123

Voltage : 2.4V - 91V

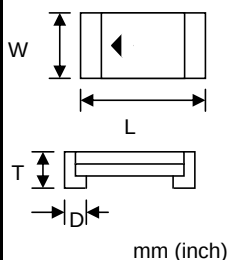
Power: 0.5Watt



HZD5221B - HZD5270B

OUTLINE DIMENSION

Item	SOD - 123	
L	3.6	mm
W	1.6	mm
T	0.55	mm
D	0.45	mm

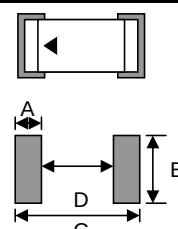


DEVICE MARKING

Device has been marked indelibly and legibly as follow	
Direction indicated	Code Number
Cathode	Anode
Terminals	Body
Circuit	

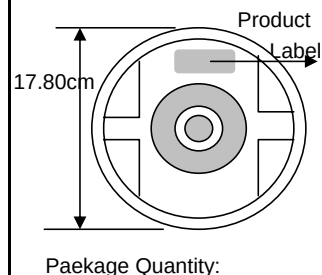
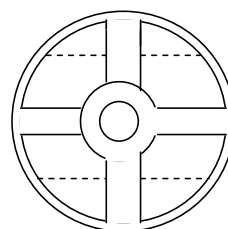
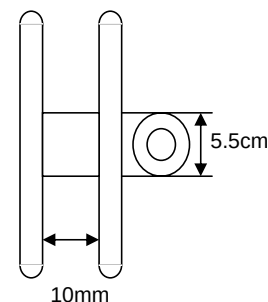
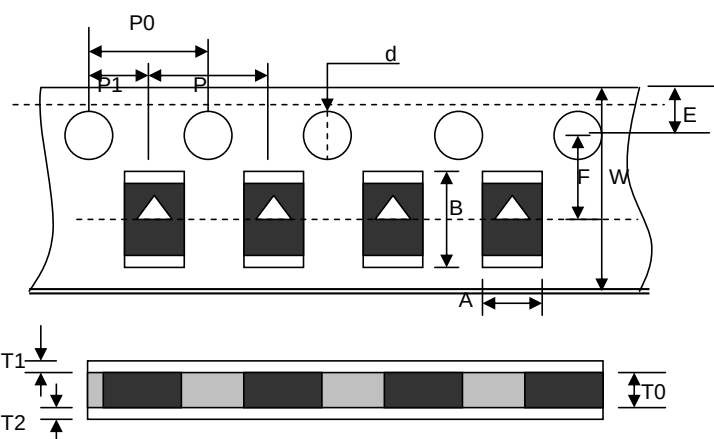
MOUNTING PAD

Layout Size	A	B	C	D	Remark
0805	1.20	1.20	3.30	0.90	Desing
Micro Melf	0.90	1.40	2.80	1.00	Suggestion
SOD-123	1.35	0.65	3.75	1.05	0805 Size
1206	1.20	1.70	4.10	1.70	Desing
Mini Melf	1.35	1.70	4.80	2.10	Suggestion
SOD-123	1.20	0.70	4.90	2.50	1206 Size

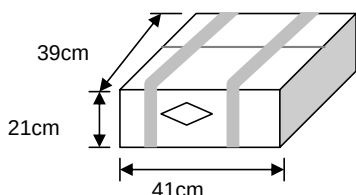


REEL TAPING SPECIFICATIONS

Item	Symbol	Size SPECIFICATIONS (mm)			
		0603	0805	1026	SOD-123
Carrier width	A	1.10±0.05	1.65±0.10	2.00±0.10	2.00±0.10
Carrier length	B	2.00±0.05	2.40±0.10	3.60±0.10	3.80±0.10
Sprocket hole	d	1.50±0.15	1.50±0.15	1.50±0.15	1.50±0.15
Project hole position	E	1.75±0.10	1.75±0.10	1.75±0.10	1.75±0.10
Punch hole position	F	3.50±0.50	3.50±0.50	3.50±0.50	3.50±0.50
Punch hole pitch	P	4.00±0.10	4.00±0.10	4.00±0.10	4.00±0.10
Sprocket hole pitch	P0	4.00±0.10	4.00±0.10	4.00±0.10	4.00±0.10
Embossment centre	P1	2.00±0.05	2.00±0.05	2.00±0.05	2.00±0.05
Base tape width	W	8.00±0.20	8.00±0.20	8.00±0.20	8.00±0.20
Top / Bottom seat tape width	W1	5.25±0.05	5.25±0.05	5.25±0.05	5.25±0.05
Base tape thickness	T0	0.95±0.02	0.95±0.02	0.95±0.02	1.05±0.02
Top seat tape thickness	T1	0.054±0.005	0.054±0.005	0.054±0.005	0.054±0.005
Bottom seat tape thickness	T2	0.042±0.005	0.042±0.005	0.042±0.005	0.042±0.005



Package Quantity:



Carton:
Size: 41x39x21cm
Quantity: 240K Pcs
In Box: 40K PCS
G.W: 10Kgs