Micro Commercial Components

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1N5913BP THRU 1N5956BP

1.5 Watt Zener Diode 3.3to 200 Volts

Features

- Glass Passivated Junction
- Low Profile Package
- Low Inductance
- Built-in Strain Relief
- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant (Note1)("P"Suffix designates Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking : 1N5913B~1N5956B type number and Cathode Band

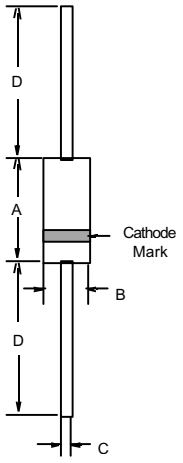
Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Forward Voltage at I_F=200mA	V_F	1.5	V
Power Dissipation at T_L = 75°C	P_{tot}	1.5(2)	W
Pwak forward Surge Current 8.3ms single half sine/square wave	I_{FSM}	10	Amps
Junction Temperature	T_j	-55 ~ +175	°C
Storage Temperature Range	T_{STG}	-55 ~ +175	°C

Note1: High Temperature Solder Exemption Applied, see EU Directive Annex 7.
2. 0.375" lead length from body.

DO-41



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.160	0.205	4.10	5.20	
B	0.080	0.107	2.00	2.70	Diameter
C	0.028	0.034	0.71	0.86	Diameter
D	1.000	-----	25.40	-----	

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ELECTRICAL CHARACTERISTICS @25°C

MCC PART NUMBER	ZENER VOLTAGE VZ	TEST CURRENT IZT	MAXIMUM DYNAMIC IMPEDANCE ZZT @IZT	KNEE CURRENT IZK	KNEE IMPEDANCE ZZK	MAXIMUM REVERSE CURRENT IR	REVERSE VOLTAGE VR
	VOLTS	mA	OHMS	mA	OHMS	μA	VOLTS
1N5913BP	3.3	113.6	10	1	500	100	1
1N5914BP	3.6	104.2	9	1	500	75	1
1N5915BP	3.9	96.1	7.5	1	500	25	1
1N5916BP	4.3	87.2	6	1	500	5	1
1N5917BP	4.7	79.8	5	1	500	5	1.5
1N5918BP	5.1	73.5	4	1	350	5	2
1N5919BP	5.6	66.9	2	1	250	5	3
1N5920BP	6.2	60.5	2	1	200	5	4
1N5921BP	6.8	55.1	2.5	1	200	5	5.2
1N5922BP	7.5	50	3	0.5	400	5	6
1N5923BP	8.2	45.7	3.5	0.5	400	5	6.5
1N5924BP	9.1	41.2	4	0.5	500	5	7
1N5925BP	10	37.5	4.5	0.25	500	5	8
1N5926BP	11	34.1	5.5	0.25	550	1	8.4
1N5927BP	12	31.2	6.5	0.25	550	1	9.1
1N5928BP	13	28.8	7	0.25	550	1	9.9
1N5929BP	15	25	9	0.25	600	1	11.4
1N5930BP	16	23.4	10	0.25	600	1	12.2
1N5931BP	18	20.8	12	0.25	650	1	13.7
1N5932BP	20	18.7	14	0.25	650	1	15.2
1N5933BP	22	17	17.5	0.25	650	1	16.7
1N5934BP	24	15.6	19	0.25	700	1	18.2
1N5935BP	27	13.9	23	0.25	700	1	20.6
1N5936BP	30	12.5	28	0.25	750	1	22.8
1N5937BP	33	11.4	33	0.25	800	1	25.1
1N5938BP	36	10.4	38	0.25	850	1	27.4
1N5939BP	39	9.6	45	0.25	900	1	29.7
1N5940BP	43	8.7	53	0.25	950	1	32.7
1N5941BP	47	8	67	0.25	1000	1	35.8
1N5942BP	51	7.3	70	0.25	1100	1	38.8
1N5943BP	56	6.7	86	0.25	1300	1	42.6
1N5944BP	62	6	100	0.25	1500	1	47.1
1N5945BP	68	5.5	120	0.25	1700	1	51.7
1N5946BP	75	5	140	0.25	2000	1	56
1N5947BP	82	4.6	160	0.25	2500	1	62.2
1N5948BP	91	4.1	200	0.25	3000	1	69.2
1N5949BP	100	3.7	250	0.25	3100	1	76
1N5950BP	110	3.4	300	0.25	4000	1	83.6
1N5951BP	120	3.1	380	0.25	4500	1	91.2
1N5952BP	130	2.9	450	0.25	5000	1	98.8
1N5953BP	150	2.5	600	0.25	6000	1	114
1N5954BP	160	2.3	700	0.25	6500	1	121.6
1N5955BP	180	2.1	900	0.25	7000	1	136.8
1N5956BP	200	1.9	1200	0.25	8000	1	152

* TOLERANCE AND VOLTAGE DESIGNATION Tolerance designation - The type numbers listed indicate a tolerance of +/-5%

Characteristics (T_j=25℃ unless otherwise specified)

Symbol	Parameter
Vz	Reverse zener voltage @ I_{ZT}
I_{ZT}	Reverse current
Z_{ZT}	Maximum zener impedance @ I_{ZT}
I_{ZK}	Reverse current
Z_{ZK}	Maximum zener impedance @ I_{ZK}
I_R	Reverse leakage current @ V_R
V_R	Breakdown voltage
I_F	Forward current
V_F	Forward voltage @ I_F

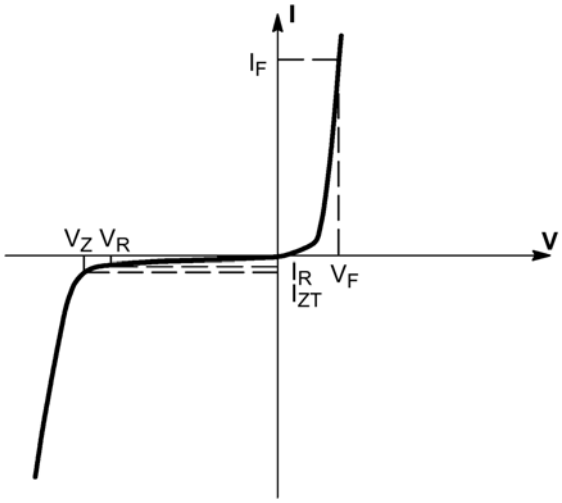

Figure 1. Zener voltage regulator

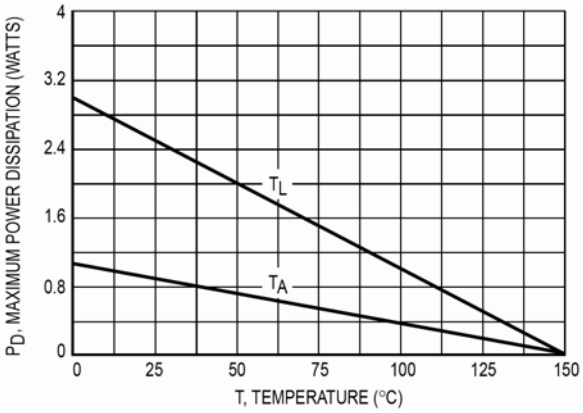

Figure 2. Steady state power derating

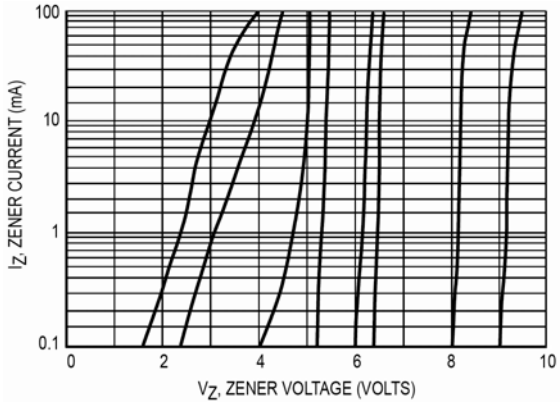

Figure 3. Vz – 3.3 thru 10 volts

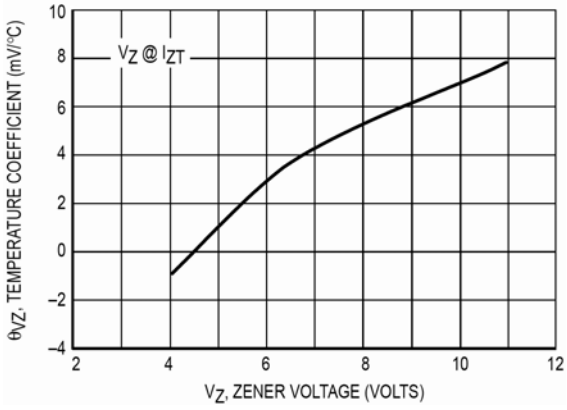

Figure 4. Zener voltage – 3.3 to 12 volts

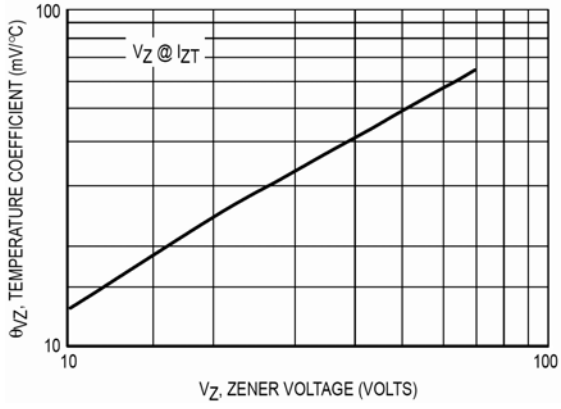

Figure 5. Zener voltage – 14 to 43 volts

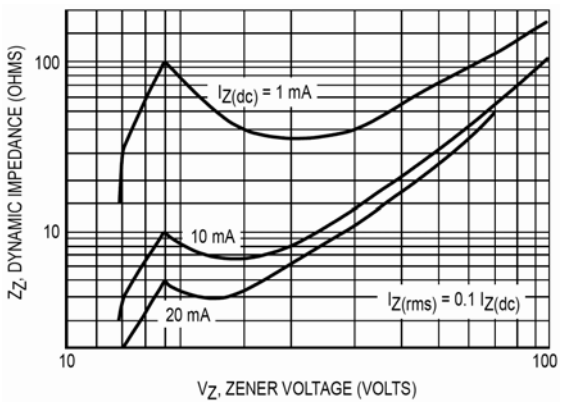

Figure 6. Effect of zener voltage

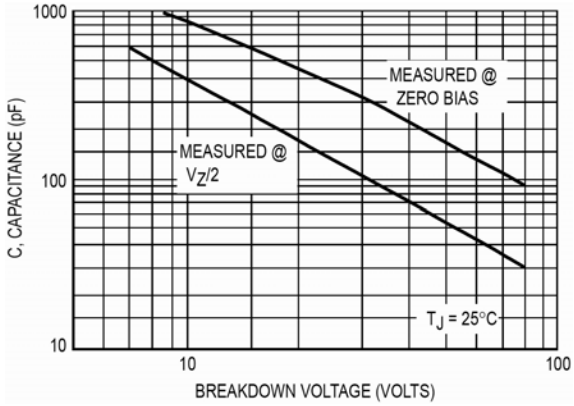

Figure 7. Capacitance curve

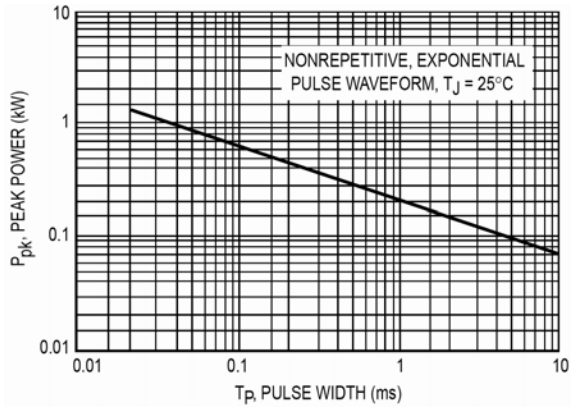

Figure 8. Typical pulse rating curve

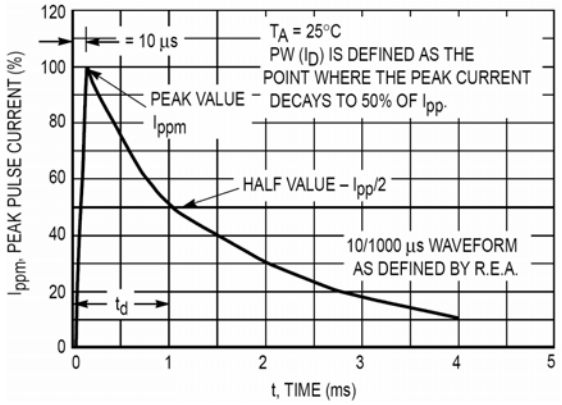

Figure 9. Pulse waveform

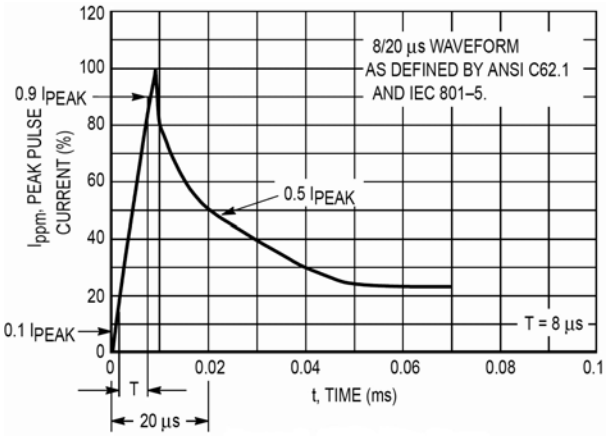

Figure 10. Pulse waveform

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Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 5Kpcs/Reel
Part Number-AP	Ammo Packing: 5Kpcs/Ammo Box
Part Number-BP	Bulk: 50Kpcs/Carton

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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