



Micro Commercial Components



Micro Commercial Components
20736 Marilla Street Chatsworth
CA 91311
Phone: (818) 701-4933
Fax: (818) 701-4939

**1N5913B3P
THRU
1N5956B3P**

Features

- Halogen free available upon request by adding suffix "-HF"
- Glass Passivated Junction
- Low Profile Package
- Low Inductance
- Built-in Strain Relief
- 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 : 1N5913B3~1N5956B3 type number and Cathode Band

**3.0 Watt
Zener Diode
3.3to 200 Volts**

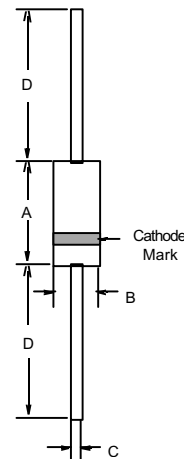
Maximum Ratings & Thermal Characteristics

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 $T_L = 75^\circ C$	P_{tot}	3.0 ⁽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



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	-----	

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
1N5913B3P	3.3	113.6	10	1	500	100	1
1N5914B3P	3.6	104.2	9	1	500	75	1
1N5915B3P	3.9	96.1	7.5	1	500	25	1
1N5916B3P	4.3	87.2	6	1	500	5	1
1N5917B3P	4.7	79.8	5	1	500	5	1.5
1N5918B3P	5.1	73.5	4	1	350	5	2
1N5919B3P	5.6	66.9	2	1	250	5	3
1N5920B3P	6.2	60.5	2	1	200	5	4
1N5921B3P	6.8	55.1	2.5	1	200	5	5.2
1N5922B3P	7.5	50	3	0.5	400	5	6
1N5923B3P	8.2	45.7	3.5	0.5	400	5	6.5
1N5924B3P	9.1	41.2	4	0.5	500	5	7
1N5925B3P	10	37.5	4.5	0.25	500	5	8
1N5926B3P	11	34.1	5.5	0.25	550	1	8.4
1N5927B3P	12	31.2	6.5	0.25	550	1	9.1
1N5928B3P	13	28.8	7	0.25	550	1	9.9
1N5929B3P	15	25	9	0.25	600	1	11.4
1N5930B3P	16	23.4	10	0.25	600	1	12.2
1N5931B3P	18	20.8	12	0.25	650	1	13.7
1N5932B3P	20	18.7	14	0.25	650	1	15.2
1N5933B3P	22	17	17.5	0.25	650	1	16.7
1N5934B3P	24	15.6	19	0.25	700	1	18.2
1N5935B3P	27	13.9	23	0.25	700	1	20.6
1N5936B3P	30	12.5	28	0.25	750	1	22.8
1N5937B3P	33	11.4	33	0.25	800	1	25.1
1N5938B3P	36	10.4	38	0.25	850	1	27.4
1N5939B3P	39	9.6	45	0.25	900	1	29.7
1N5940B3P	43	8.7	53	0.25	950	1	32.7
1N5941B3P	47	8	67	0.25	1000	1	35.8
1N5942B3P	51	7.3	70	0.25	1100	1	38.8
1N5943B3P	56	6.7	86	0.25	1300	1	42.6
1N5944B3P	62	6	100	0.25	1500	1	47.1
1N5945B3P	68	5.5	120	0.25	1700	1	51.7
1N5946B3P	75	5	140	0.25	2000	1	56
1N5947B3P	82	4.6	160	0.25	2500	1	62.2
1N5948B3P	91	4.1	200	0.25	3000	1	69.2
1N5949B3P	100	3.7	250	0.25	3100	1	76
1N5950B3P	110	3.4	300	0.25	4000	1	83.6
1N5951B3P	120	3.1	380	0.25	4500	1	91.2
1N5952B3P	130	2.9	450	0.25	5000	1	98.8
1N5953B3P	150	2.5	600	0.25	6000	1	114
1N5954B3P	160	2.3	700	0.25	6500	1	121.6
1N5955B3P	180	2.1	900	0.25	7000	1	136.8
1N5956B3P	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 ($T_j=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter
V_Z	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

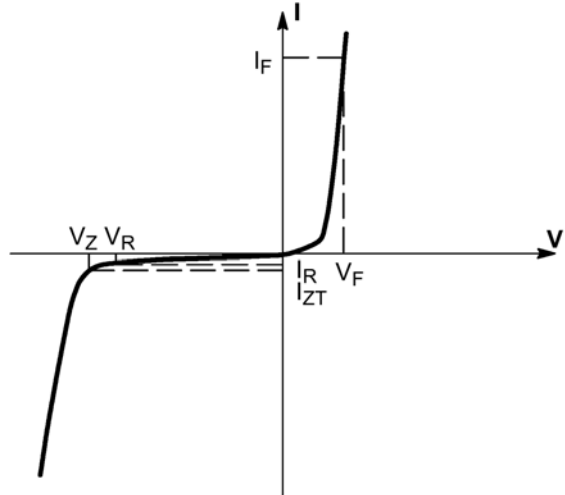


Figure 1. Zener voltage regulator

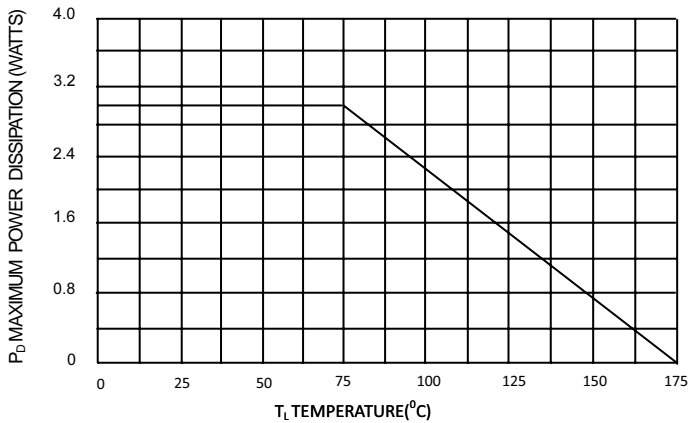


Figure 2. Steady state power derating

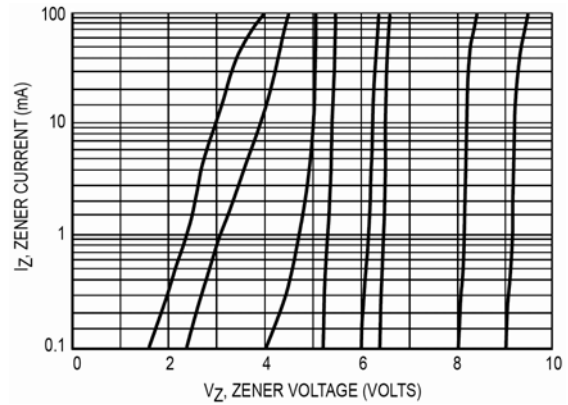


Figure 3. V_Z - 3.3 thru 10 volts

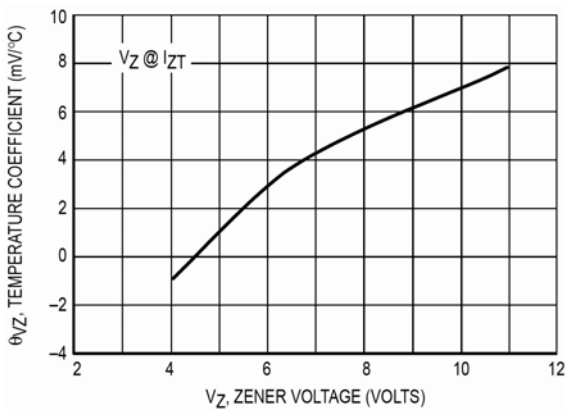


Figure 4. Zener voltage - 3.3 to 12 volts

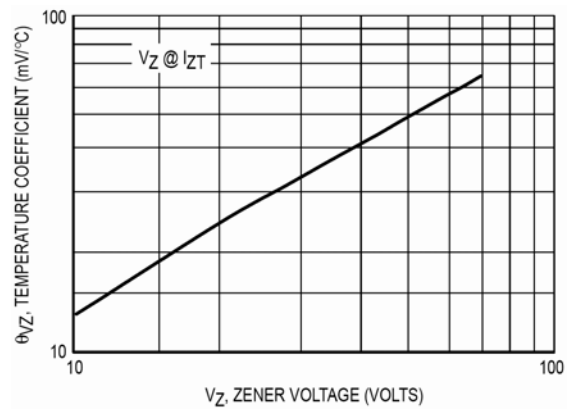


Figure 5. Zener voltage - 14 to 43 volts

1N5913B3P THRU 1N5956B3P

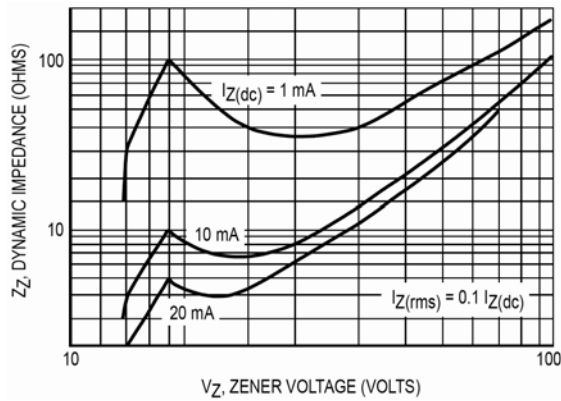


Figure 6. Effect of zener voltage

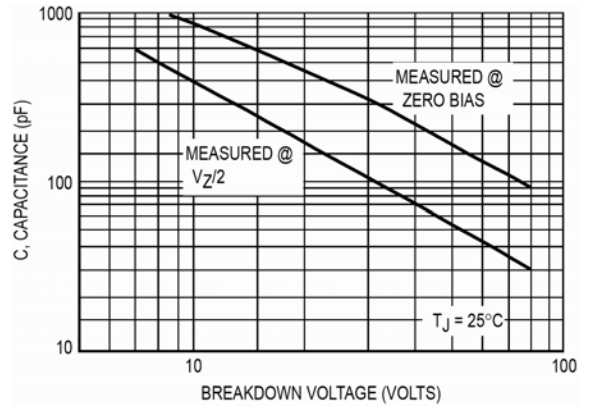


Figure 7. Capacitance curve

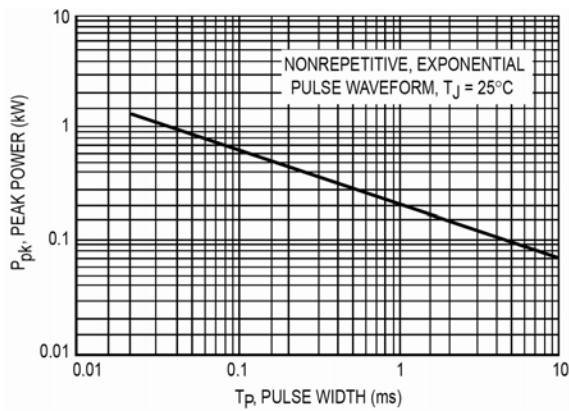


Figure 8. Typical pulse rating curve

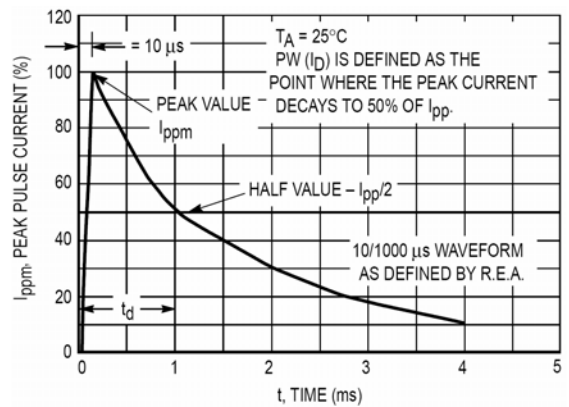


Figure 9. Pulse waveform

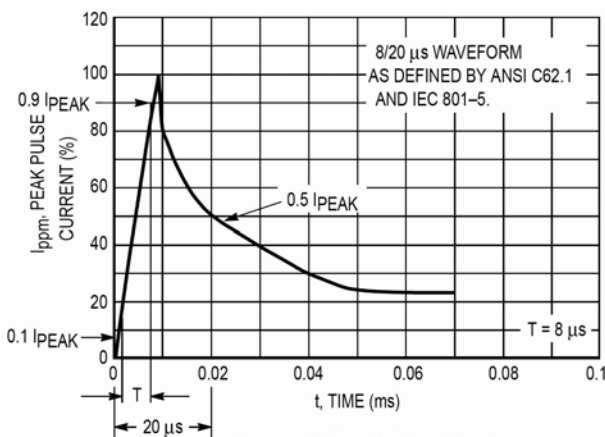


Figure 10. Pulse waveform



Micro Commercial Components

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

IMPORTANT NOTICE

Micro Commercial Components Corp. reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp .** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp .** and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

CUSTOMER AWARENESS

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.

www.mccsemi.com