



Micro Commercial Components



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

# SMAJ5925BHE3 THRU SMAJ5956BHE3

## Features

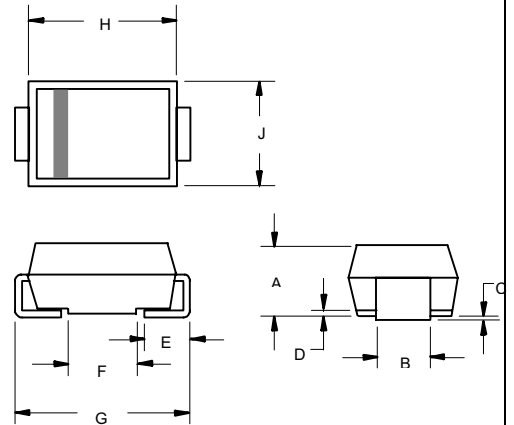
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- AEC-Q101 Qualified
- Low Zener Impedance
- Low Regulation Factor  
V<sub>Z</sub> – tolerance: ±5%  
For Surface Mount Applications
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free

## Maximum Ratings

Junction Temperature: 150°C  
 Storage Temperature: -65°C to +175°C  
 1.5 Watt DC Power Dissipation (T<sub>L</sub> ≤ 75°C)  
 Thermal Resistance Junction to Lead: 50°C/W  
 Thermal Resistance Junction to Ambient: 83°C/W  
 Forward Voltage @ 200mA: 1.5 Volts

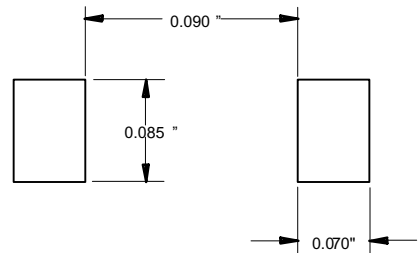
# 1.5 Watt Zener Diode 10 to 200 Volts

## DO-214AC (SMA)(LEAD FRAME)



DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.079	.096	2.00	2.44	
B	.050	.064	1.27	1.63	
C	.002	.008	.05	.20	
D	---	.02	---	.51	
E	.030	.060	.76	1.52	
F	.065	.091	1.65	2.32	
G	.189	.220	4.80	5.59	
H	.157	.181	4.00	4.60	
J	.090	.115	2.25	2.92	

### SUGGESTED SOLDER PAD LAYOUT



Note: 1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7.

# SMAJ5925BHE3 THRU SMAJ5956BHE3

## ELECTRICAL CHARACTERISTICS @25°C

MCC PART NUMBER	ZENER VOLTAGE VZ (1)	TEST CURRENT IZT	MAXIMUM DYNAMIC IMPEDANCE ZZT @IZT	KNEE CURRENT IZK	KNEE IMPEDANCE ZZK	MAXIMUM REVERSE CURRENT IR	REVERSE VOLTAGE VR	DEVICE MARKING
	VOLTS	mA	OHMS	mA	OHMS	μA	VOLTS	
SMAJ5925BHE3	10	37.5	4.5	0.25	500	5	8	25B
SMAJ5926BHE3	11	34.1	5.5	0.25	550	1	8.4	26B
SMAJ5927BHE3	12	31.2	6.5	0.25	550	1	9.1	27B
SMAJ5928BHE3	13	28.8	7	0.25	550	1	9.9	28B
SMAJ5929BHE3	15	25	9	0.25	600	1	11.4	29B
SMAJ5930BHE3	16	23.4	10	0.25	600	1	12.2	30B
SMAJ5931BHE3	18	20.8	12	0.25	650	1	13.7	31B
SMAJ5932BHE3	20	18.7	14	0.25	650	1	15.2	32B
SMAJ5933BHE3	22	17	17.5	0.25	650	1	16.7	33B
SMAJ5934BHE3	24	15.6	19	0.25	700	1	18.2	34B
SMAJ5935BHE3	27	13.9	23	0.25	700	1	20.6	35B
SMAJ5936BHE3	30	12.5	28	0.25	750	1	22.8	36B
SMAJ5937BHE3	33	11.4	33	0.25	800	1	25.1	37B
SMAJ5938BHE3	36	10.4	38	0.25	850	1	27.4	38B
SMAJ5939BHE3	39	9.6	45	0.25	900	1	29.7	39B
SMAJ5940BHE3	43	8.7	53	0.25	950	1	32.7	40B
SMAJ5941BHE3	47	8	67	0.25	1000	1	35.8	41B
SMAJ5942BHE3	51	7.3	70	0.25	1100	1	38.8	42B
SMAJ5943BHE3	56	6.7	86	0.25	1300	1	42.6	43B
SMAJ5944BHE3	62	6	100	0.25	1500	1	47.1	44B
SMAJ5945BHE3	68	5.5	120	0.25	1700	1	51.7	45B
SMAJ5946BHE3	75	5	140	0.25	2000	1	56	46B
SMAJ5947BHE3	82	4.6	160	0.25	2500	1	62.2	47B
SMAJ5948BHE3	91	4.1	200	0.25	3000	1	69.2	48B
SMAJ5949BHE3	100	3.7	250	0.25	3100	1	76	49B
SMAJ5950BHE3	110	3.4	300	0.25	4000	1	83.6	50B
SMAJ5951BHE3	120	3.1	380	0.25	4500	1	91.2	51B
SMAJ5952BHE3	130	2.9	450	0.25	5000	1	98.8	52B
SMAJ5953BHE3	150	2.5	600	0.25	6000	1	114	53B
SMAJ5954BHE3	160	2.3	700	0.25	6500	1	121.6	54B
SMAJ5955BHE3	180	2.1	900	0.25	7000	1	136.8	55B
SMAJ5956BHE3	200	1.9	1200	0.25	8000	1	152	56B

1) Based on DC-measurement at thermal equilibrium while maintaining the lead temperature( $T_L$ ) at 30°C, 9.5mm(3/8) from the diode body.

# SMAJ5925BHE3 THRU SMAJ5956BHE3

**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 @ $I_F$

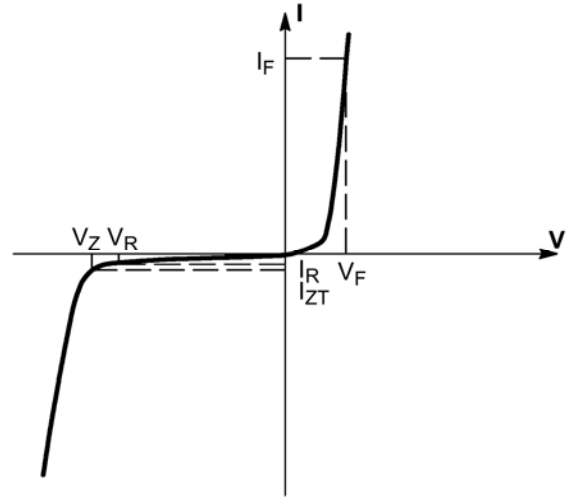


Figure 1. Zener voltage regulator

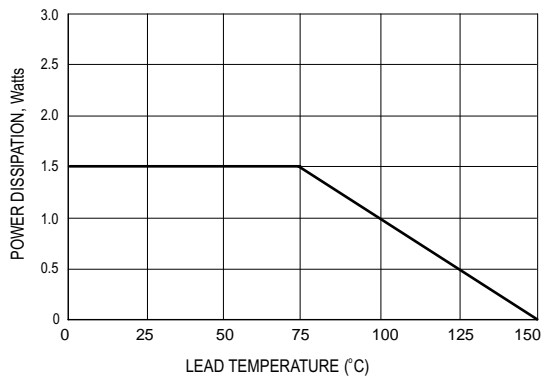


Figure 2. Steady state power derating

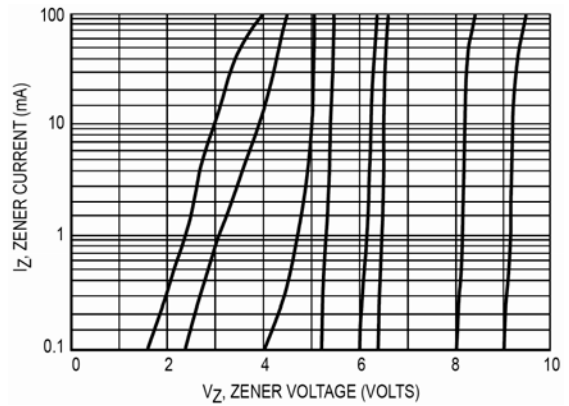


Figure 3.  $V_Z - 10$  volts

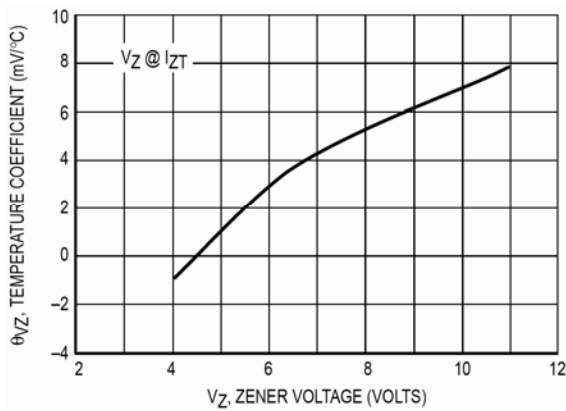


Figure 4. Zener voltage - 10 to 12 volts

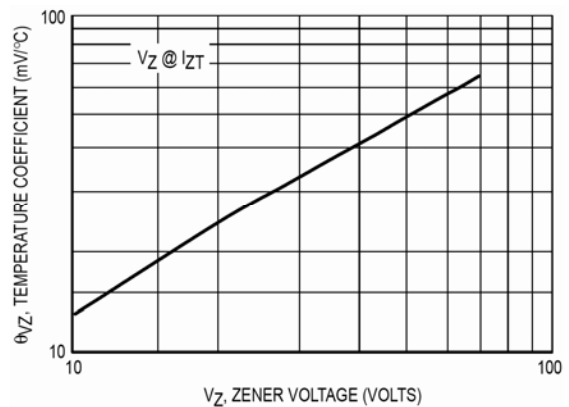


Figure 5. Zener voltage - 14 to 43 volts

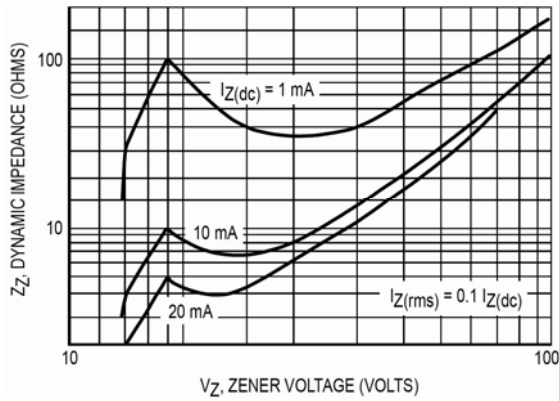


Figure 6. Effect of zener voltage

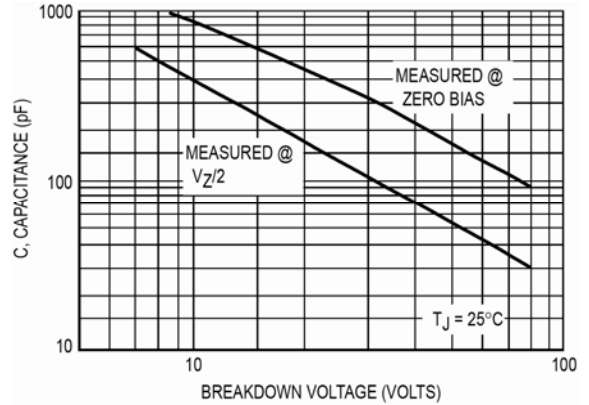


Figure 7. Capacitance curve

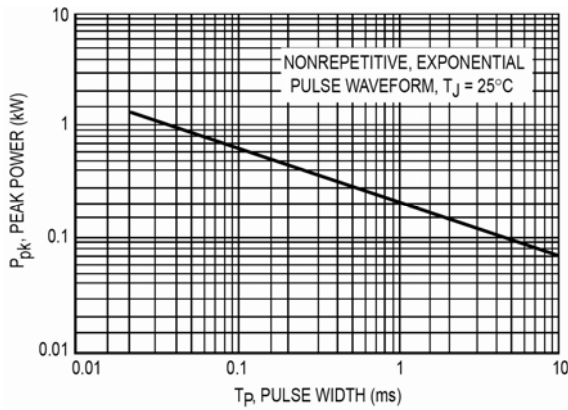


Figure 8. Typical pulse rating curve

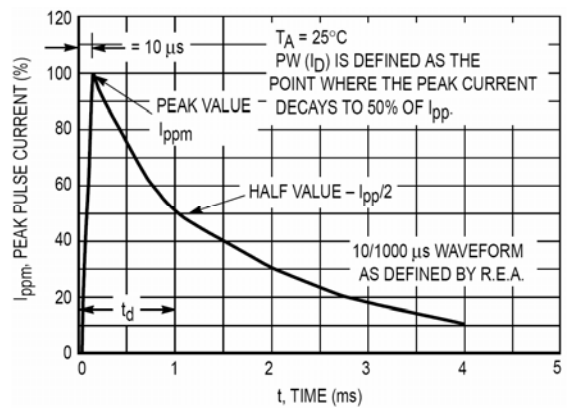


Figure 9. Pulse waveform

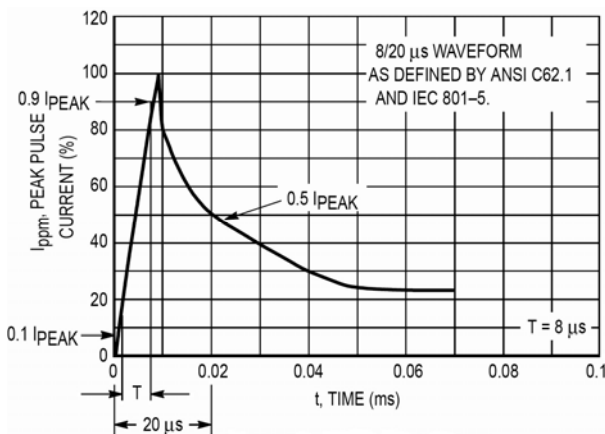


Figure 10. Pulse waveform



Micro Commercial Components <sup>TM</sup>

### Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 7.5Kpcs/Reel

**\*\*\*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.