



E480232

Features

- AEC-Q101 Qualified
- Halogen Free."Green" Device (Note 1)
- For Surface Mount Applications in Order to Optimize Board Space
- Low Inductance
- Fast Response Time: Typical Less Than 1ps From 0V to V_{BR} min
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- For Bidirectional Devices Add "C" To The Suffix of The Part Number: i.e.SMBJ11CAHE3 for 5% Tolerance

Mechanical Data

- Polarity: Color Band Denotes Positive End(cathode) Except Bi-directional Types
- Maximum Soldering Temperature: 260°C for 10 Seconds
- Manufacturing Code Added for Better Tracking
- Terminals: Solderable Per MIL-STD-750, Method 2026

Maximum Ratings

- Operating Junction Temperature Range: -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Thermal Resistance : 20°C/W Junction to Lead
- Thermal Resistance : 25°C/W Junction to Case

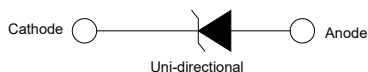
Electrical Characteristics @ 25°C Unless Otherwise Specified

Peak Pulse Power Surge Current on 10/1000μs Waveform	I_{PP}	See the Table	Note 3
Peak Pulse Power Dissipation	P_{PP}	600W	Note 3,4

Notes:

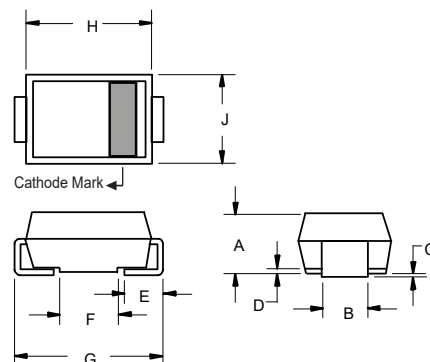
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.
3. Non-repetitive current pulse, per Fig.3 and derated above $T_A=25^\circ\text{C}$ per Fig.4.
4. Mounted on 5.0mm² copper pads to each terminal.

Pin Configuration:



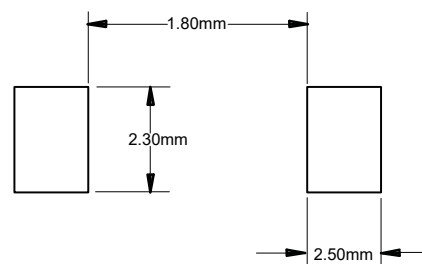
600 Watt TVS
10 to 190 Volts

SMB (DO-214AA) (LEAD FRAME)



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.079	0.103	2.00	2.62	
B	0.075	0.087	1.91	2.21	
C	0.002	0.008	0.05	0.20	
D	0.006	0.012	0.15	0.31	
E	0.030	0.060	0.76	1.52	
F	0.065	0.091	1.65	2.32	
G	0.200	0.220	5.08	5.59	
H	0.160	0.191	4.06	4.85	
J	0.130	0.155	3.30	3.94	

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

MCC PART NUMBER	REVERSE STAND-OFF VOLTAGE V_{WM}	BREAKDOWN VOLTAGE $V_{(BR)} @ I_T$ (VOLTS)			MAXIMUM CLAMPING VOLTAGE@ I_{PP}	PEAK PULSE CURRENT I_{PP}	MAXIMUM REVERSE LEAKAGE @ V_{WM} I_D	MARKING CODE
	VOLTS	MIN	MAX	I_T (mA)	VOLTS	(AMPS)	(μA)	
SMBJ10AHE3	10	11.1	12.3	1	17.0	35.3	1	KX
SMBJ11AHE3	11	12.2	13.5	1	18.2	33.0	1	KZ
SMBJ12AHE3	12	13.3	14.7	1	19.9	30.2	1	LE
SMBJ13AHE3	13	14.4	15.9	1	21.5	27.9	1	LG
SMBJ14AHE3	14	15.6	17.2	1	23.2	25.8	1	LK
SMBJ15AHE3	15	16.7	18.5	1	24.4	24.0	1	LM
SMBJ16AHE3	16	17.8	19.7	1	26.0	23.1	1	LP
SMBJ17AHE3	17	18.9	20.9	1	27.6	21.7	1	LR
SMBJ18AHE3	18	20.0	22.1	1	29.2	20.5	1	LT
SMBJ20AHE3	20	22.2	24.5	1	32.4	18.5	1	LV
SMBJ22AHE3	22	24.4	26.9	1	35.5	16.9	1	LX
SMBJ24AHE3	24	26.7	29.5	1	38.9	15.4	1	LZ
SMBJ26AHE3	26	28.9	31.9	1	42.1	14.2	1	ME
SMBJ28AHE3	28	31.1	34.4	1	45.4	13.2	1	MG
SMBJ30AHE3	30	33.3	36.8	1	48.4	12.4	1	MK
SMBJ33AHE3	33	36.7	40.6	1	53.3	11.3	1	MM
SMBJ36AHE3	36	40.0	44.2	1	58.1	10.3	1	MP
SMBJ40AHE3	40	44.4	49.1	1	64.5	9.3	1	MR
SMBJ43AHE3	43	47.8	52.8	1	69.4	8.6	1	MT
SMBJ45AHE3	45	50.0	55.3	1	72.7	8.3	1	MV
SMBJ48AHE3	48	53.3	58.9	1	77.4	7.7	1	MX
SMBJ51AHE3	51	56.7	62.7	1	82.4	7.3	1	MZ
SMBJ54AHE3	54	60.0	66.3	1	87.1	6.9	1	NE
SMBJ58AHE3	58	64.4	71.2	1	93.6	6.4	1	NG
SMBJ60AHE3	60	66.7	73.7	1	96.8	6.2	1	NK
SMBJ64AHE3	64	71.1	78.6	1	103	5.8	1	NM
SMBJ70AHE3	70	77.8	86.0	1	113	5.3	1	NP
SMBJ75AHE3	75	83.3	92.1	1	121	4.9	1	NR
SMBJ78AHE3	78	86.7	95.8	1	126	4.7	1	NT
SMBJ80AHE3	80	88.8	97.6	1	129.6	4.6	1	NU
SMBJ85AHE3	85	94.4	104	1	137	4.4	1	NV
SMBJ90AHE3	90	100	111	1	146	4.1	1	NX
SMBJ100AHE3	100	111	123	1	162	3.7	1	NZ
SMBJ110AHE3	110	122	135	1	177	3.4	1	PE
SMBJ120AHE3	120	133	147	1	193	3.1	1	PG
SMBJ130AHE3	130	144	159	1	209	2.9	1	PK
SMBJ140AHE3	140	155	171	1	140	2.6	1	PL
SMBJ150AHE3	150	167	185	1	243	2.5	1	PM
SMBJ160AHE3	160	178	197	1	259	2.3	1	PP
SMBJ170AHE3	170	189	209	1	275	2.2	1	PR
SMBJ180AHE3	180	201	222	1	292	2.1	1	PT
SMBJ190AHE3	190	211	232	1	190	1.9	1	PU

Electrical Characteristics @ 25°C Unless Otherwise Specified

MCC PART NUMBER	REVERSE STAND-OFF VOLTAGE V_{WM}	BREAKDOWN VOLTAGE $V_{(BR)} @ I_T$ (VOLTS)			MAXIMUM CLAMPING VOLTAGE@ I_{PP}	PEAK PULSE CURRENT I_{PP}	MAXIMUM REVERSE LEAKAGE @ V_{WM} I_D	MARKING CODE
	VOLTS	MIN	MAX	I_T (mA)	VOLTS	(AMPS)	(μA)	
SMBJ10CAHE3	10	11.1	12.3	1	17.0	35.3	1	AX
SMBJ11CAHE3	11	12.2	13.5	1	18.2	33.0	1	AZ
SMBJ12CAHE3	12	13.3	14.7	1	19.9	30.2	1	BE
SMBJ13CAHE3	13	14.4	15.9	1	21.5	27.9	1	BG
SMBJ14CAHE3	14	15.6	17.2	1	23.2	25.8	1	BK
SMBJ15CAHE3	15	16.7	18.5	1	24.4	24.0	1	BM
SMBJ16CAHE3	16	17.8	19.7	1	26.0	23.1	1	BP
SMBJ17CAHE3	17	18.9	20.9	1	27.6	21.7	1	BR
SMBJ18CAHE3	18	20.0	22.1	1	29.2	20.5	1	BT
SMBJ20CAHE3	20	22.2	24.5	1	32.4	18.5	1	BV
SMBJ22CAHE3	22	24.4	26.9	1	35.5	16.9	1	BX
SMBJ24CAHE3	24	26.7	29.5	1	38.9	15.4	1	BZ
SMBJ26CAHE3	26	28.9	31.9	1	42.1	14.2	1	CE
SMBJ28CAHE3	28	31.1	34.4	1	45.4	13.2	1	CG
SMBJ30CAHE3	30	33.3	36.8	1	48.4	12.4	1	CK
SMBJ33CAHE3	33	36.7	40.6	1	53.3	11.3	1	CM
SMBJ36CAHE3	36	40.0	44.2	1	58.1	10.3	1	CP
SMBJ40CAHE3	40	44.4	49.1	1	64.5	9.3	1	CR
SMBJ43CAHE3	43	47.8	52.8	1	69.4	8.6	1	CT
SMBJ45CAHE3	45	50.0	55.3	1	72.7	8.3	1	CV
SMBJ48CAHE3	48	53.3	58.9	1	77.4	7.7	1	CX
SMBJ51CAHE3	51	56.7	62.7	1	82.4	7.3	1	CZ
SMBJ54CAHE3	54	60.0	66.3	1	87.1	6.9	1	DE
SMBJ58CAHE3	58	64.4	71.2	1	93.6	6.4	1	DG
SMBJ60CAHE3	60	66.7	73.7	1	96.8	6.2	1	DK
SMBJ64CAHE3	64	71.1	78.6	1	103	5.8	1	DM
SMBJ70CAHE3	70	77.8	86.0	1	113	5.3	1	DP
SMBJ75CAHE3	75	83.3	92.1	1	121	4.9	1	DR
SMBJ78CAHE3	78	86.7	95.8	1	126	4.7	1	DT
SMBJ80CAHE3	80	88.8	97.6	1	129.6	4.6	1	DU
SMBJ85CAHE3	85	94.4	104	1	137	4.4	1	DV
SMBJ90CAHE3	90	100	111	1	146	4.1	1	DX
SMBJ100CAHE3	100	111	123	1	162	3.7	1	DZ
SMBJ110CAHE3	110	122	135	1	177	3.4	1	EE
SMBJ120CAHE3	120	133	147	1	193	3.1	1	EG
SMBJ130CAHE3	130	144	159	1	209	2.9	1	EK
SMBJ140CAHE3	140	155	171	1	140	2.6	1	EL
SMBJ150CAHE3	150	167	185	1	243	2.5	1	EM
SMBJ160CAHE3	160	178	197	1	259	2.3	1	EP
SMBJ170CAHE3	170	189	209	1	275	2.2	1	ER
SMBJ180CAHE3	180	201	222	1	292	2.1	1	ET
SMBJ190CAHE3	190	211	232	1	190	1.9	1	EU

Curve Characteristics

Fig. 1 - Peak Pulse Power Rating Curve

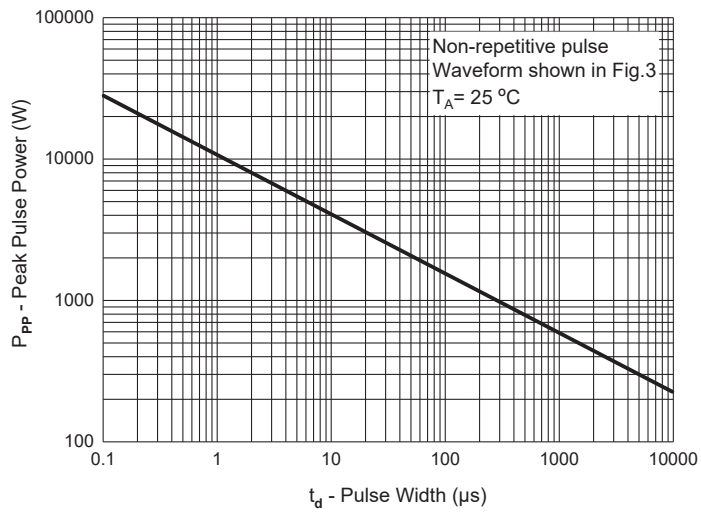


Fig. 2 - Typical Junction Capacitance

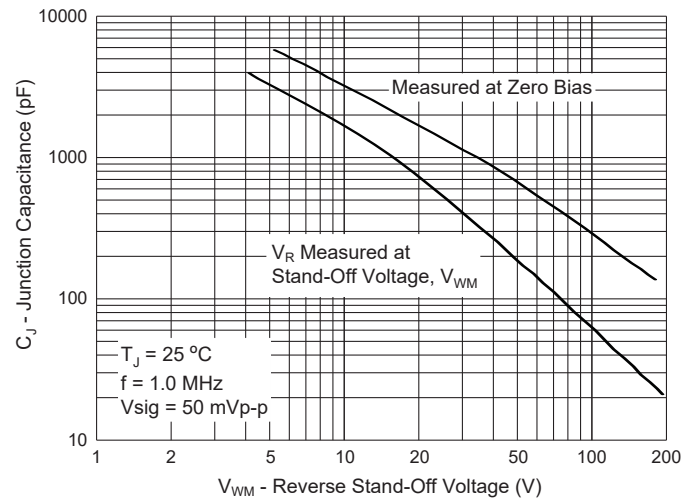


Fig. 3 - Pulse Waveform

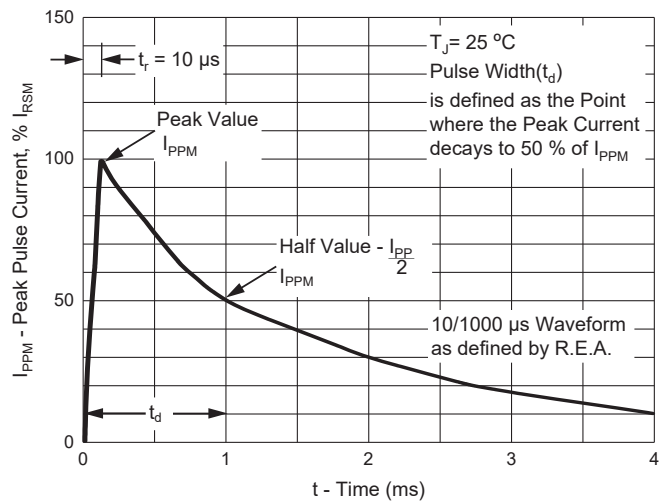
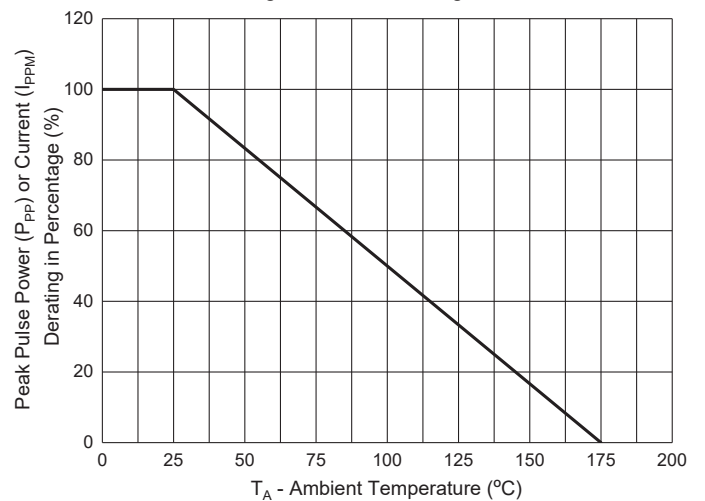


Fig. 4 - Pulse Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:3Kpcs/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. **Micro Commercial Components Corp.** products are sold subject to the general terms and conditions of commercial sale, as published at <https://www.mccsemi.com/Home/TermsAndConditions>.

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.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Micro Commercial Components (MCC):

[SMBJ100AHE3-TP](#) [SMBJ130CAHE3-TP](#) [SMBJ85AHE3-TP](#) [SMBJ85CAHE3-TP](#) [SMBJ80CAHE3-TP](#)
[SMBJ180AHE3-TP](#) [SMBJ170CAHE3-TP](#) [SMBJ100CAHE3-TP](#) [SMBJ130AHE3-TP](#) [SMBJ150AHE3-TP](#)
[SMBJ10CAHE3-TP](#) [SMBJ120AHE3-TP](#) [SMBJ120CAHE3-TP](#) [SMBJ80AHE3-TP](#) [SMBJ180CAHE3-TP](#) [SMBJ10AHE3-](#)
[TP](#) [SMBJ140CAHE3-TP](#) [SMBJ140AHE3-TP](#) [SMBJ90AHE3-TP](#) [SMBJ190AHE3-TP](#) [SMBJ90CAHE3-TP](#)
[SMBJ110AHE3-TP](#) [SMBJ110CAHE3-TP](#) [SMBJ190CAHE3-TP](#)