

	E480232
---	----------------

Features

- AEC-Q101 Qualified
- For Surface Mount Applications in Order to Optimize Board Space
- Halogen Free. "Green" Device (Note 1)
- Low Profile Package
- Unidirectional and Bidirectional Available, for Bidirectional Devices add 'C' Suffix to The pn#, i.e. SMAJP4KE12CAHE3
- Fast Response Time: Typical Less Than 1.0ps From 0 Volts to V_{BR} Minimum
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating

Mechanical Data

- Polarity: Color Band Denotes Positive end (cathode) Except Bidirectional
- Maximum Soldering Temperature: 260°C for 10 Seconds
- Manufacturing Code Added for Better Tracking
- CASE: JEDEC DO214AC
- Terminals: Plated Axial leads, Solderable Per MIL-STD-750, Methode 2026

Maximum Ratings

- Operating Junction Temperature Range: -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Typical Thermal Resistance: 100°C/W Junction to Ambient

Peak Pulse Power Surge Current with a 10/1000µs Waveform	I_{PP}	See the Table	Note 2
Peak Pulse Power Dissipation	P_{PP}	400W	Note 2

Note:

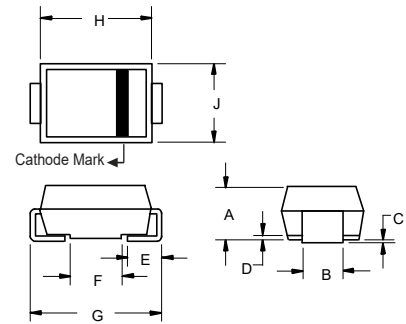
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. Non-repetitive current pulse, per Fig.3 and derated above $T_A=25^\circ\text{C}$ per Fig.4.
3. Mounted on 5.0mm² copper pads to each terminal.

Pin Configuration:



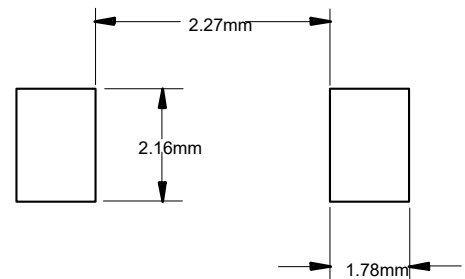
**400 Watt TVS
12 to 220 Volts**

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



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.079	0.096	2.00	2.44	
B	0.050	0.064	1.27	1.63	
C	0.002	0.008	0.051	0.203	
D	---	0.020	---	0.51	
E	0.030	0.060	0.76	1.52	
F	0.065	0.091	1.65	2.32	
G	0.189	0.220	4.80	5.59	
H	0.157	0.181	4.00	4.60	
J	0.090	0.115	2.25	2.92	

SUGGESTED SOLDER PAD LAYOUT



Electrical Characteristics @ 25°C Unless Otherwise Specified

MCC PART NUMBER	REVERSE STAND-OFF VOLTAGE V_{WM} (VOLTS)	BREAKDOWN VOLTAGE $V_{(BR)} @ I_T$ (VOLTS)			MAXIMUM CLAMPING VOLTAGE @ I_{PP} (VOLTS)	PEAK PULSE CURRENT I_{PP} (AMPS)	MAXIMUM REVERSE LEAKAGE @ V_{WM} I_D μA	MARKING CODE
		MIN	MAX	I_T (mA)				
SMAJP4KE12AHE3	10.20	11.40	12.60	1	16.7	24.6	5	12A
SMAJP4KE13AHE3	11.10	12.40	13.70	1	18.2	22.5	1	13A
SMAJP4KE15AHE3	12.80	14.30	15.80	1	21.2	19.3	1	15A
SMAJP4KE16AHE3	13.60	15.20	16.80	1	22.5	18.2	1	16A
SMAJP4KE18AHE3	15.30	17.10	18.90	1	25.5	16.1	1	18A
SMAJP4KE20AHE3	17.10	19.00	21.00	1	27.7	14.8	1	20A
SMAJP4KE22AHE3	18.80	20.90	23.10	1	30.6	13.4	1	22A
SMAJP4KE24AHE3	20.50	22.80	25.20	1	33.2	12.3	1	24A
SMAJP4KE27AHE3	23.10	25.70	28.40	1	37.5	10.9	1	27A
SMAJP4KE30AHE3	25.60	28.50	31.50	1	41.4	9.9	1	30A
SMAJP4KE33AHE3	28.20	31.40	34.70	1	45.7	9.0	1	33A
SMAJP4KE36AHE3	30.80	34.20	37.80	1	49.9	8.2	1	36A
SMAJP4KE39AHE3	33.30	37.10	41.00	1	53.9	7.6	1	39A
SMAJP4KE43AHE3	36.80	40.90	45.20	1	59.3	6.9	1	43A
SMAJP4KE47AHE3	40.20	44.70	49.40	1	64.8	6.3	1	47A
SMAJP4KE51AHE3	43.60	48.50	53.60	1	70.1	5.8	1	51A
SMAJP4KE56AHE3	47.80	53.20	58.80	1	77.0	5.3	1	56A
SMAJP4KE62AHE3	53.00	58.90	65.10	1	85.0	4.8	1	62A
SMAJP4KE68AHE3	58.10	64.60	71.40	1	92.0	4.5	1	68A
SMAJP4KE75AHE3	64.10	71.30	78.80	1	103.0	4.0	1	75A
SMAJP4KE82AHE3	70.10	77.90	86.10	1	113.0	3.6	1	82A
SMAJP4KE91AHE3	77.80	86.50	95.50	1	125.0	3.3	1	91A
SMAJP4KE100AHE3	85.50	95.00	105.00	1	137.0	3.0	1	100A
SMAJP4KE110AHE3	94.00	105.00	116.00	1	152.0	2.7	1	110A
SMAJP4KE120AHE3	102.00	114.00	126.00	1	165.0	2.5	1	120A
SMAJP4KE130AHE3	111.00	124.00	137.00	1	179.0	2.3	1	130A
SMAJP4KE150AHE3	128.00	143.00	158.00	1	207.0	2.0	1	150A
SMAJP4KE160AHE3	136.00	152.00	168.00	1	219.0	1.9	1	160A
SMAJP4KE170AHE3	145.00	162.00	179.00	1	234.0	1.8	1	170A
SMAJP4KE180AHE3	154.00	171.00	189.00	1	246.0	1.7	1	180A
SMAJP4KE200AHE3	171.00	190.00	210.00	1	274.0	1.5	1	200A
SMAJP4KE220AHE3	185.00	209.00	231.00	1	328.0	1.2	1	220A

Note:

 *For Bi-directional type having V_{WM} of 10 volts and less, the I_R limit is double.

 *The available parts are "A" type only, the parts without A (V_{BR} is $\pm 10\%$) is not available.

Electrical Characteristics @ 25°C Unless Otherwise Specified

MCC PART NUMBER	REVERSE STAND-OFF VOLTAGE V_{WM} (VOLTS)	BREAKDOWN VOLTAGE $V_{(BR)} @ I_T$ (VOLTS)			MAXIMUM CLAMPING VOLTAGE @ I_{PP} (VOLTS)	PEAK PULSE CURRENT I_{PP} (AMPS)	MAXIMUM REVERSE LEAKAGE @ V_{WM} I_D μA	MARKING CODE
		MIN	MAX	I_T (mA)				
SMAJP4KE12CAHE3	10.20	11.40	12.60	1	16.7	24.6	5	12C
SMAJP4KE13CAHE3	11.10	12.40	13.70	1	18.2	22.5	1	13C
SMAJP4KE15CAHE3	12.80	14.30	15.80	1	21.2	19.3	1	15C
SMAJP4KE16CAHE3	13.60	15.20	16.80	1	22.5	18.2	1	16C
SMAJP4KE18CAHE3	15.30	17.10	18.90	1	25.5	16.1	1	18C
SMAJP4KE20CAHE3	17.10	19.00	21.00	1	27.7	14.8	1	20C
SMAJP4KE22CAHE3	18.80	20.90	23.10	1	30.6	13.4	1	22C
SMAJP4KE24CAHE3	20.50	22.80	25.20	1	33.2	12.3	1	24C
SMAJP4KE27CAHE3	23.10	25.70	28.40	1	37.5	10.9	1	27C
SMAJP4KE30CAHE3	25.60	28.50	31.50	1	41.4	9.9	1	30C
SMAJP4KE33CAHE3	28.20	31.40	34.70	1	45.7	9.0	1	33C
SMAJP4KE36CAHE3	30.80	34.20	37.80	1	49.9	8.2	1	36C
SMAJP4KE39CAHE3	33.30	37.10	41.00	1	53.9	7.6	1	39C
SMAJP4KE43CAHE3	36.80	40.90	45.20	1	59.3	6.9	1	43C
SMAJP4KE47CAHE3	40.20	44.70	49.40	1	64.8	6.3	1	47C
SMAJP4KE51CAHE3	43.60	48.50	53.60	1	70.1	5.8	1	51C
SMAJP4KE56CAHE3	47.80	53.20	58.80	1	77.0	5.3	1	56C
SMAJP4KE62CAHE3	53.00	58.90	65.10	1	85.0	4.8	1	62C
SMAJP4KE68CAHE3	58.10	64.60	71.40	1	92.0	4.5	1	68C
SMAJP4KE75CAHE3	64.10	71.30	78.80	1	103.0	4.0	1	75C
SMAJP4KE82CAHE3	70.10	77.90	86.10	1	113.0	3.6	1	82C
SMAJP4KE91CAHE3	77.80	86.50	95.50	1	125.0	3.3	1	91C
SMAJP4KE100CAHE3	85.50	95.00	105.00	1	137.0	3.0	1	100C
SMAJP4KE110CAHE3	94.00	105.00	116.00	1	152.0	2.7	1	110C
SMAJP4KE120CAHE3	102.00	114.00	126.00	1	165.0	2.5	1	120C
SMAJP4KE130CAHE3	111.00	124.00	137.00	1	179.0	2.3	1	130C
SMAJP4KE150CAHE3	128.00	143.00	158.00	1	207.0	2.0	1	150C
SMAJP4KE160CAHE3	136.00	152.00	168.00	1	219.0	1.9	1	160C
SMAJP4KE170CAHE3	145.00	162.00	179.00	1	234.0	1.8	1	170C
SMAJP4KE180CAHE3	154.00	171.00	189.00	1	246.0	1.7	1	180C
SMAJP4KE200CAHE3	171.00	190.00	210.00	1	274.0	1.5	1	200C
SMAJP4KE220CAHE3	185.00	209.00	231.00	1	328.0	1.2	1	220C

Note:

 *For Bi-directional type having V_{WM} of 10 volts and less, the I_R limit is double.

 *The available parts are "A" type only, the parts without A (V_{BR} is $\pm 10\%$) is not available.

Curve Characteristics

Fig. 1 - Peak Pulse Power Rating Curve

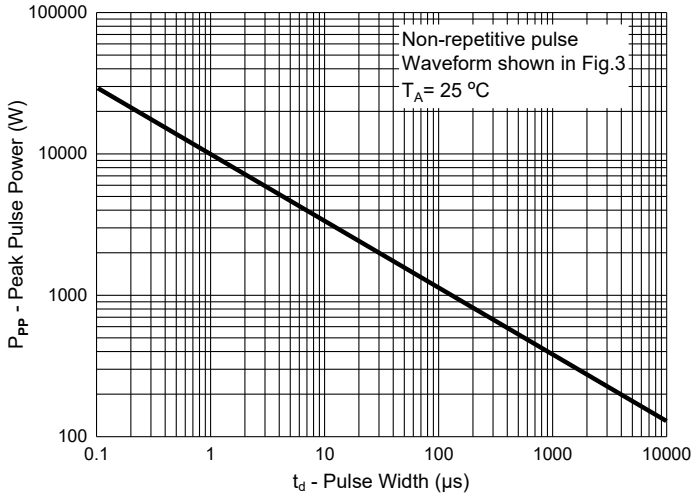


Fig. 2 - Typical Junction Capacitance

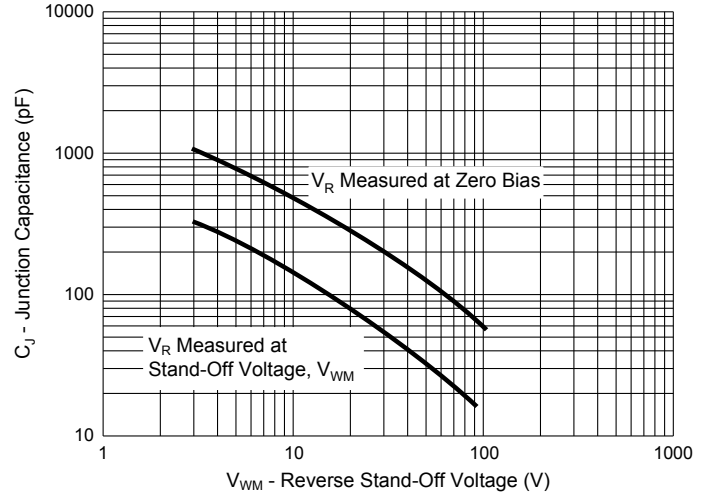


Fig. 3 - Pulse Waveform

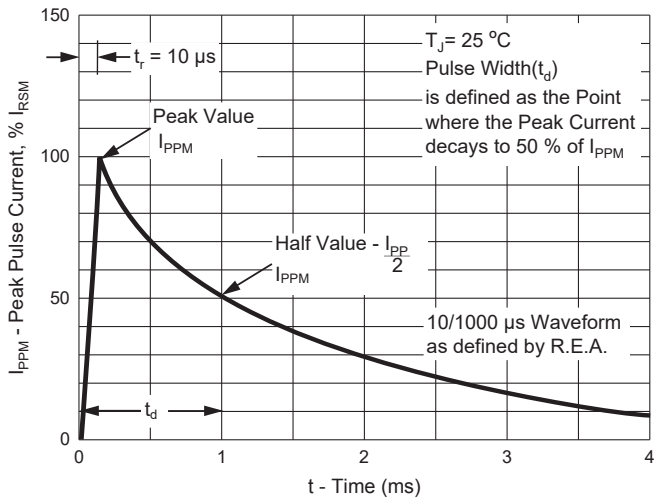
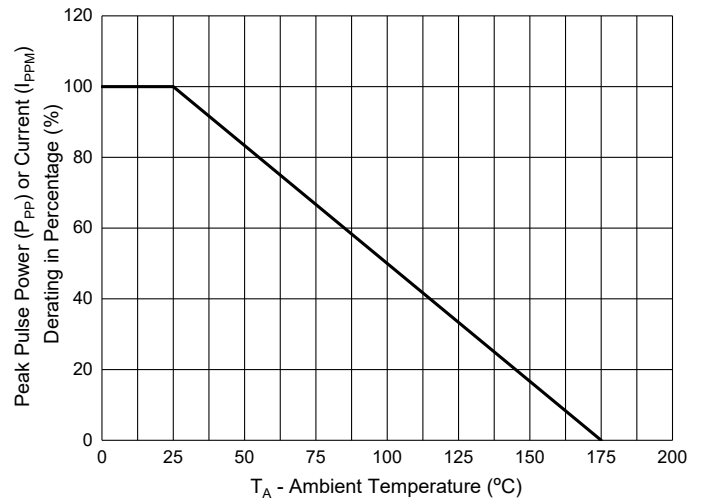


Fig. 4 - Pulse Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: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. **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.

单击下面可查看定价，库存，交付和生命周期等信息

[>>MCC\(美微科\)](#)