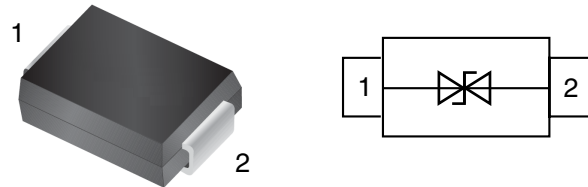


Power TVS in DO-214AC/SMA

Features

- Glass passivated chip
- 400W peak pulse power(10/1000us)
- High accuracy, 5% tolerance
- Uni and Bidirectional unit
- Low clamping voltage
- Low Leakage current
- Very fast response time

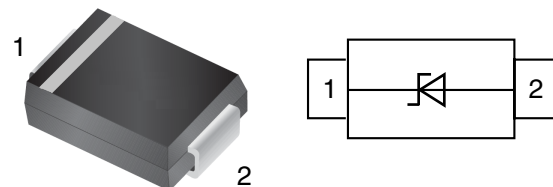
Bidirectional



Mechanical Data

- **Case:** DO-214AC/SMA (plastic package).
RoHS compliant
- **Molding Compound Flammability Rating:**
UL 94 V-0
- **Terminals:** High temperature soldering guaranteed:
260 °C/10 sec. at terminals

Unidirectional



Applications

- Computers
- Telecom system
- Industrial equipments
- Consumer electronic applications
- Other VCC bus and I/O interfaces

Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

Parameter	Symbol	Value	Unit
Peak pulse power dissipation with a 10/1000us waveform ⁽¹⁾	P _{PP}	400	W
Maximum peak reverse pulse current a 10/1000us waveform ⁽¹⁾	I _{PP}	See Next Table	A
Peak forward surge current 8.3ms single half sine-wave ⁽²⁾	I _{FSM}	40	A
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150	°C

Notes:

- 1.Non-repetitive current pulse,per Fig.5 and detated above TA=25°C per Fig.1
- 2.Measured on 8.3ms single half sine-wave,or equivalent square wave,duty cycle=4 pulses per minute maximum

Electrical Characteristics

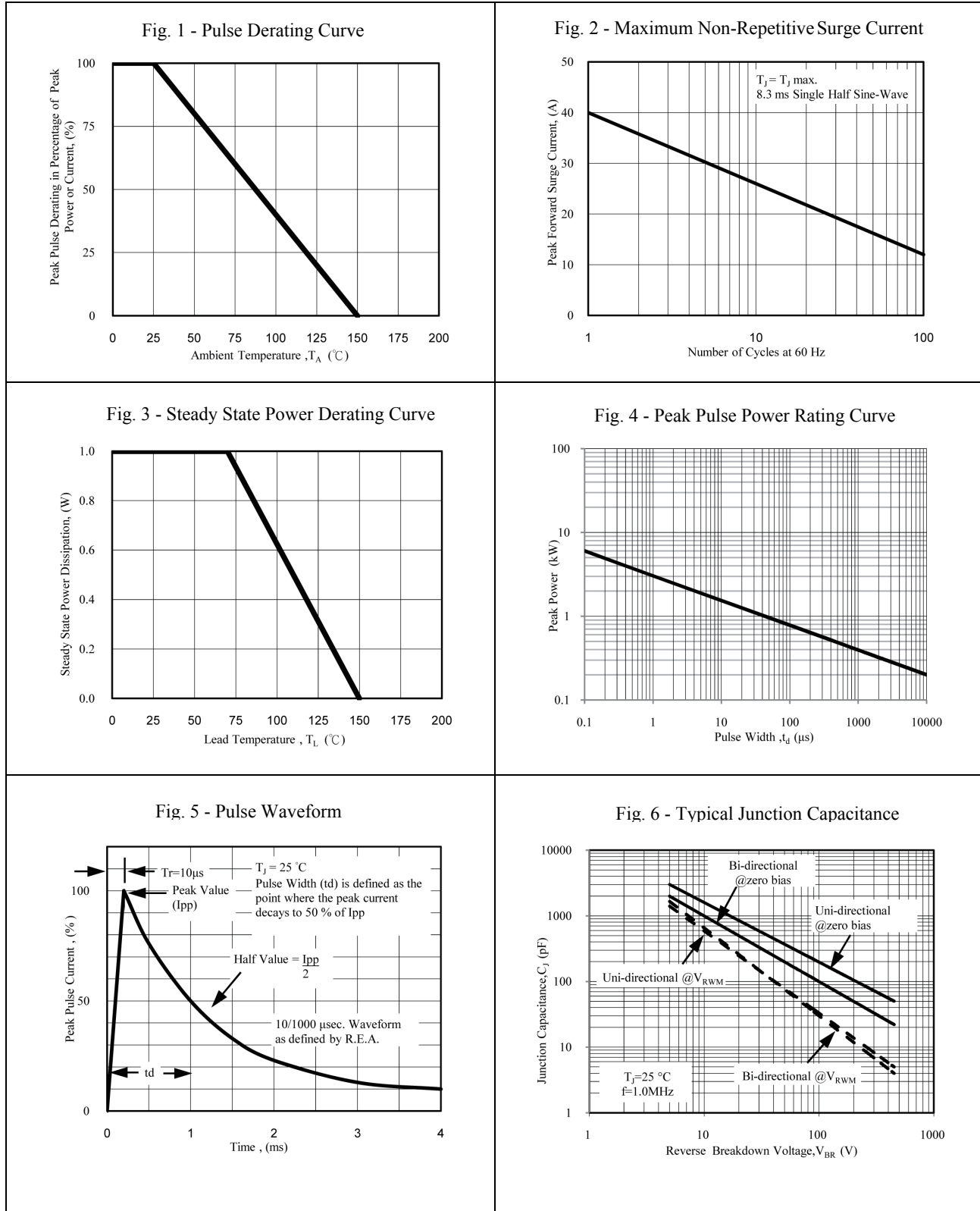
(T_A = 25 °C unless otherwise specified)

Part Number	Direction	Maximum Working Voltage V _{RWM} (V)	Maximum Reverse Current@V _{RWM} I _R max(μA)	Breakdown Voltage@I _T			Peak Surge Current I _{PP} (A)	Maximum Clamping Voltage@I _{PP} V _C (V)
				V _{BR} min(V)	V _{BR} max(V)	I _T (mA)		
SMAJ5.0A	Uni-Dir	5.0	800	6.4	7.07	10	43.48	9.2
SMAJ5.0CA	Bi-Dir	5.0	1600	6.4	7.07	10	43.48	9.2
SMAJ6.0A	Uni-Dir	6.0	800	6.67	7.37	10	38.83	10.3
SMAJ6.0CA	Bi-Dir	6.0	1600	6.67	7.37	10	38.83	10.3
SMAJ6.5A	Uni-Dir	6.5	500	7.22	7.98	10	35.71	11.2
SMAJ6.5CA	Bi-Dir	6.5	1000	7.22	7.98	10	35.71	11.2
SMAJ7.0A	Uni-Dir	7.0	200	7.78	8.60	10	33.33	12.0
SMAJ7.0CA	Bi-Dir	7.0	400	7.78	8.60	10	33.33	12.0
SMAJ7.5A	Uni-Dir	7.5	100	8.33	9.21	1	31.01	12.9
SMAJ7.5CA	Bi-Dir	7.5	200	8.33	9.21	1	31.01	12.9
SMAJ8.0A	Uni-Dir	8.0	50	8.89	9.83	1	29.41	13.6
SMAJ8.0CA	Bi-Dir	8.0	100	8.89	9.83	1	29.41	13.6
SMAJ8.5A	Uni-Dir	8.5	10	9.44	10.40	1	27.78	14.4
SMAJ8.5CA	Bi-Dir	8.5	20	9.44	10.40	1	27.78	14.4
SMAJ9.0A	Uni-Dir	9.0	5	10.00	11.10	1	25.97	15.4
SMAJ9.0CA	Bi-Dir	9.0	10	10.00	11.10	1	25.97	15.4
SMAJ10A	Uni-Dir	10.0	5	11.10	12.30	1	23.53	17.0
SMAJ10CA	Bi-Dir	10.0	10	11.10	12.30	1	23.53	17.0
SMAJ11A	Uni-Dir	11.0	1	12.20	13.50	1	21.98	18.2
SMAJ11CA	Bi-Dir	11.0	1	12.20	13.50	1	21.98	18.2
SMAJ12A	Uni-Dir	12.0	1	13.30	14.70	1	20.10	19.9
SMAJ12CA	Bi-Dir	12.0	1	13.30	14.70	1	20.10	19.9
SMAJ13A	Uni-Dir	13.0	1	14.40	15.90	1	18.60	21.5
SMAJ13CA	Bi-Dir	13.0	1	14.40	15.90	1	18.60	21.5
SMAJ14A	Uni-Dir	14.0	1	15.60	17.20	1	17.24	23.2
SMAJ14CA	Bi-Dir	14.0	1	15.60	17.20	1	17.24	23.2
SMAJ15A	Uni-Dir	15.0	1	16.70	18.50	1	16.39	24.4
SMAJ15CA	Bi-Dir	15.0	1	16.70	18.50	1	16.39	24.4
SMAJ16A	Uni-Dir	16.0	1	17.80	19.70	1	15.38	26.0
SMAJ16CA	Bi-Dir	16.0	1	17.80	19.70	1	15.38	26.0
SMAJ17A	Uni-Dir	17.0	1	18.90	20.90	1	14.49	27.6
SMAJ17CA	Bi-Dir	17.0	1	18.90	20.90	1	14.49	27.6
SMAJ18A	Uni-Dir	18.0	1	20.00	22.10	1	13.70	29.2
SMAJ18CA	Bi-Dir	18.0	1	20.00	22.10	1	13.70	29.2
SMAJ19A	Uni-Dir	19.0	1	21.10	23.30	1	13.00	30.8
SMAJ19CA	Bi-Dir	19.0	1	21.10	23.30	1	13.00	30.8
SMAJ20A	Uni-Dir	20.0	1	22.20	24.50	1	12.35	32.4
SMAJ20CA	Bi-Dir	20.0	1	22.20	24.50	1	12.35	32.4

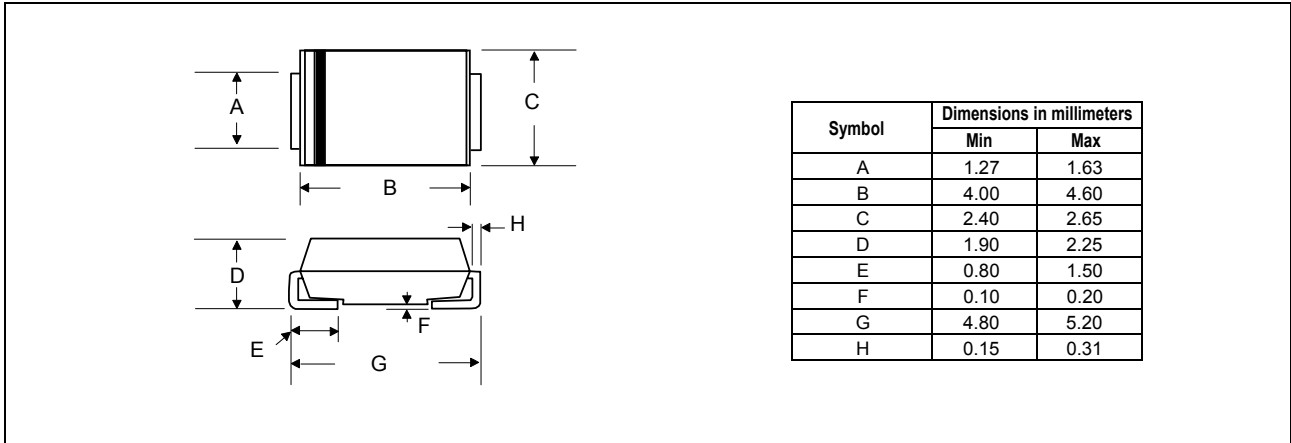
Part Number	Direction	Maximum Working Voltage V_{RWM} (V)	Maximum Reverse Current@ V_{RWM} I_R max(μ A)	Breakdown Voltage@ I_T			Peak Surge Current I_{PP} (A)	Maximum Clamping Voltage@ I_{PP} V_C (V)
				V_{BR} min(V)	V_{BR} max(V)	I_T (mA)		
SMAJ22A	Uni-Dir	22.0	1	24.40	26.90	1	11.27	35.5
SMAJ22CA	Bi-Dir	22.0	1	24.40	26.90	1	11.27	35.5
SMAJ24A	Uni-Dir	24.0	1	26.70	29.50	1	10.28	38.9
SMAJ24CA	Bi-Dir	24.0	1	26.70	29.50	1	10.28	38.9
SMAJ26A	Uni-Dir	26.0	1	28.90	31.90	1	9.50	42.1
SMAJ26CA	Bi-Dir	26.0	1	28.90	31.90	1	9.50	42.1
SMAJ28A	Uni-Dir	28.0	1	31.10	34.40	1	8.81	45.4
SMAJ28CA	Bi-Dir	28.0	1	31.10	34.40	1	8.81	45.4
SMAJ30A	Uni-Dir	30.0	1	33.30	36.80	1	8.26	48.4
SMAJ30CA	Bi-Dir	30.0	1	33.30	36.80	1	8.26	48.4
SMAJ33A	Uni-Dir	33.0	1	36.70	40.60	1	7.50	53.3
SMAJ33CA	Bi-Dir	33.0	1	36.70	40.60	1	7.50	53.3
SMAJ36A	Uni-Dir	36.0	1	40.00	44.20	1	6.88	58.1
SMAJ36CA	Bi-Dir	36.0	1	40.00	44.20	1	6.88	58.1
SMAJ40A	Uni-Dir	40.0	1	44.40	49.10	1	6.20	64.5
SMAJ40CA	Bi-Dir	40.0	1	44.40	49.10	1	6.20	64.5
SMAJ43A	Uni-Dir	43.0	1	47.80	52.80	1	5.76	69.4
SMAJ43CA	Bi-Dir	43.0	1	47.80	52.80	1	5.76	69.4
SMAJ45A	Uni-Dir	45.0	1	50.00	55.30	1	5.50	72.7
SMAJ45CA	Bi-Dir	45.0	1	50.00	55.30	1	5.50	72.7
SMAJ48A	Uni-Dir	48.0	1	53.30	58.90	1	5.17	77.4
SMAJ48CA	Bi-Dir	48.0	1	53.30	58.90	1	5.17	77.4
SMAJ51A	Uni-Dir	51.0	1	56.70	62.70	1	4.85	82.4
SMAJ51CA	Bi-Dir	51.0	1	56.70	62.70	1	4.85	82.4
SMAJ54A	Uni-Dir	54.0	1	60.00	66.30	1	4.59	87.1
SMAJ54CA	Bi-Dir	54.0	1	60.00	66.30	1	4.59	87.1
SMAJ58A	Uni-Dir	58.0	1	64.40	71.20	1	4.27	93.6
SMAJ58CA	Bi-Dir	58.0	1	64.40	71.20	1	4.27	93.6
SMAJ60A	Uni-Dir	60.0	1	66.70	73.70	1	4.13	96.8
SMAJ60CA	Bi-Dir	60.0	1	66.70	73.70	1	4.13	96.8
SMAJ64A	Uni-Dir	64.0	1	71.10	78.60	1	3.88	103.0
SMAJ64CA	Bi-Dir	64.0	1	71.10	78.60	1	3.88	103.0
SMAJ70A	Uni-Dir	70.0	1	77.80	86.00	1	3.54	113.0
SMAJ70CA	Bi-Dir	70.0	1	77.80	86.00	1	3.54	113.0
SMAJ75A	Uni-Dir	75.0	1	83.30	92.10	1	3.31	121.0
SMAJ75CA	Bi-Dir	75.0	1	83.30	92.10	1	3.31	121.0
SMAJ78A	Uni-Dir	78.0	1	86.70	95.80	1	3.17	126.0
SMAJ78CA	Bi-Dir	78.0	1	86.70	95.80	1	3.17	126.0

Part Number	Direction	Maximum Working Voltage V_{RWM} (V)	Maximum Reverse Current@ V_{RWM} I_R max(μ A)	Breakdown Voltage@ I_T			Peak Surge Current I_{PP} (A)	Maximum Clamping Voltage@ I_{PP} V_C (V)
				V_{BR} min(V)	V_{BR} max(V)	I_T (mA)		
SMAJ80A	Uni-Dir	80.0	1	88.80	97.60	1	3.09	129.6
SMAJ80CA	Bi-Dir	80.0	1	88.80	97.60	1	3.09	129.6
SMAJ85A	Uni-Dir	85.0	1	94.40	104.00	1	2.92	137.0
SMAJ85CA	Bi-Dir	85.0	1	94.40	104.00	1	2.92	137.0
SMAJ90A	Uni-Dir	90.0	1	100.00	111.00	1	2.74	146.0
SMAJ90CA	Bi-Dir	90.0	1	100.00	111.00	1	2.74	146.0
SMAJ100A	Uni-Dir	100.0	1	111.00	123.00	1	2.47	162.0
SMAJ100CA	Bi-Dir	100.0	1	111.00	123.00	1	2.47	162.0
SMAJ110A	Uni-Dir	110.0	1	122.00	135.00	1	2.26	177.0
SMAJ110CA	Bi-Dir	110.0	1	122.00	135.00	1	2.26	177.0
SMAJ120A	Uni-Dir	120.0	1	133.00	147.00	1	2.07	193.0
SMAJ120CA	Bi-Dir	120.0	1	133.00	147.00	1	2.07	193.0
SMAJ130A	Uni-Dir	130.0	1	144.00	159.00	1	1.91	209.0
SMAJ130CA	Bi-Dir	130.0	1	144.00	159.00	1	1.91	209.0
SMAJ140A	Uni-Dir	140.0	1	155.00	171.00	1	1.76	226.8
SMAJ140CA	Bi-Dir	140.0	1	155.00	171.00	1	1.76	226.8
SMAJ150A	Uni-Dir	150.0	1	167.00	185.00	1	1.65	243.0
SMAJ150CA	Bi-Dir	150.0	1	167.00	185.00	1	1.65	243.0
SMAJ160A	Uni-Dir	160.0	1	178.00	197.00	1	1.54	259.0
SMAJ160CA	Bi-Dir	160.0	1	178.00	197.00	1	1.54	259.0
SMAJ170A	Uni-Dir	170.0	1	189.00	209.00	1	1.45	275.0
SMAJ170CA	Bi-Dir	170.0	1	189.00	209.00	1	1.45	275.0
SMAJ180A	Uni-Dir	180.0	1	200.00	220.00	1	1.37	291.6
SMAJ180CA	Bi-Dir	180.0	1	200.00	220.00	1	1.37	291.6
SMAJ190A	Uni-Dir	190.0	1	211.00	232.00	1	1.30	307.8
SMAJ190CA	Bi-Dir	190.0	1	211.00	232.00	1	1.30	307.8
SMAJ200A	Uni-Dir	200.0	1	224.00	247.00	1	1.23	324.0
SMAJ200CA	Bi-Dir	200.0	1	224.00	247.00	1	1.23	324.0
SMAJ220A	Uni-Dir	220.0	1	246.00	272.00	1	1.12	356.0
SMAJ220CA	Bi-Dir	220.0	1	246.00	272.00	1	1.12	356.0
SMAJ250A	Uni-Dir	250.0	1	279.00	309.00	1	0.99	405.0
SMAJ250CA	Bi-Dir	250.0	1	279.00	309.00	1	0.99	405.0
SMAJ300A	Uni-Dir	300.0	1	335.00	371.00	1	0.82	486.0
SMAJ300CA	Bi-Dir	300.0	1	335.00	371.00	1	0.82	486.0
SMAJ350A	Uni-Dir	350.0	1	391.00	432.00	1	0.71	567.0
SMAJ350CA	Bi-Dir	350.0	1	391.00	432.00	1	0.71	567.0
SMAJ400A	Uni-Dir	400.0	1	447.00	494.00	1	0.62	648.0
SMAJ400CA	Bi-Dir	400.0	1	447.00	494.00	1	0.62	648.0
SMAJ440A	Uni-Dir	440.0	1	492.00	543.00	1	0.56	713.0
SMAJ440CA	Bi-Dir	440.0	1	492.00	543.00	1	0.56	713.0

Typical Characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)



Package Dimensions



Ordering information

Order code	Package	Packaging option	Base quantity	Packaging specification
SMAJ Series	DO-214AC/SMA	Tape and reel	7500pcs / reel	EIA STD RS-481

Revision history

Date	Revision	Changes
23-May-2012	1.0	Initial release

CAUTION / WARNING

Information in this document is believed to be accurate and reliable. However, CREATEK does not give any representations or warranties, expressed or implied, as to the accuracy or completeness of such information and shall have no liability for the consequences of use of such information.

Users should independently evaluate the suitability of and test each product selected for their own applications, and CREATEK assumes no liability whatsoever relating to the choice, selection or use of the CREATEK products and services described herein.

CREATEK reserves the right to change or update, without notice, any information contained in this publication; to change, without notice, the design, construction, processing, or specification of any product; and to discontinue or limit production or distribution of any product.

Information in this document supersedes and replaces all information previously supplied.

Products are not designed, authorized or warranted to be suitable for use in medical, military, aircraft, space or life support equipment, nor in applications where failure or malfunction of an CREATEK product can reasonably be expected to result in personal injury, death or severe property or environmental damage. CREATEK accepts no liability for inclusion and/or use of CREATEK products in such equipment or applications and therefore such inclusion and/or use is at the customer's own risk.


This document as well as the item(s) described herein may be subject to export control regulations. Export might require a prior authorization from national authorities.

Resale of CREATEK products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by CREATEK for the CREATEK product or service described herein and shall not create or extend in any manner whatsoever, any liability of CREATEK.

CREATEK expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. CREATEK only obligations are those in the CREATEK Standard Terms and Conditions of Sale and in no case will CREATEK be liable for any incidental, indirect, or consequential damages arising from the sale, resale, use, or misuse of its products.

Specifications are subject to change without notice

© Copyright 2009, CREATEK Microelectronics

 CREATEK® is a registered trademark of CREATEK Microelectronics

All rights reserved

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [ESD Suppressors / TVS Diodes](#) category:

Click to view products by [CREATEK](#) manufacturer:

Other Similar products are found below :

[60KS200C](#) [D18V0L1B2LP-7B](#) [D5V0F4U5P5-7](#) [DESD5V0U1BB-7](#) [NTE4902](#) [P4KE27CA](#) [P6KE11CA](#) [P6KE39CA-TP](#) [P6KE8.2A](#)
[SA110CA](#) [SA60CA](#) [SA64CA](#) [SMBJ12CATR](#) [SMBJ33CATR](#) [SMBJ8.0A](#) [ESD101-B1-02ELS E6327](#) [ESD105-B1-02EL E6327](#) [ESD112-B1-02EL E6327](#) [ESD119B1W01005E6327XTSA1](#) [ESD5V0L1B02VH6327XTSA1](#) [ESD7451N2T5G](#) [19180-510](#) [CPDT-5V0USP-HF](#)
[3.0SMCJ33CA-F](#) [3.0SMCJ36A-F](#) [HSPC16701B02TP](#) [D3V3Q1B2DLP3-7](#) [D55V0M1B2WS-7](#) [DESD5V0U1BL-7B](#) [DRTR5V0U4SL-7](#)
[SCM1293A-04SO](#) [ESD200-B1-CSP0201 E6327](#) [SM12-7](#) [SMF8.0A-TP](#) [SMLJ45CA-TP](#) [CEN955 W/DATA](#) [82350120560](#) [VESD12A1A-](#)
[HD1-GS08](#) [CPDUR5V0R-HF](#) [CPDQC5V0U-HF](#) [CPDQC5V0USP-HF](#) [CPDQC5V0-HF](#) [D1213A-01LP4-7B](#) [D1213A-02WL-7](#)
[MMAD1108/TR13](#) [5KP100A](#) [5KP15A](#) [5KP18A](#) [5KP48A](#) [5KP90A](#)