5.0SMDJxxS Series Single Chip Design





Additional Information



Agency Approvals

Agency	Agency File Number
71	E230531

Maximum Ratings and Thermal Characteristics (T_=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Maximum Peak Pulse Power Dissipation at T_= 25° C by 10/1000µs Waveform (Fig.2)(Note 1)(Note 2)	P _{PPM}	5000	W
Power Dissipation on Infinite Heat Sink at T_L =50°C (Note 4)	P _D	6.5	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 3)	I _{FSM}	300	А
Maximum Instantaneous Forward Voltage at 100A for Unidirectional Only	$V_{\rm F}$	3.5	V
Operating Temperature Range	Tj	-65 to 150	°C
Storage Temperature Range	T _{stg}	-65 to 175	°C
Typical Thermal Resistance Junction to Lead	$R_{_{ ext{ extbf{ heta}JL}}}$	15	°C/W
Typical Thermal Resistance Junction to Ambient	$R_{_{\theta JA}}$	75	°C/W

1. Non-repetitive current pulse per Fig. 4 and derated above T. (initial) =25°C per Fig. 3.

2. Voltage of 6.0V~60V products's peak pulse power dissipation is 5000W, and 64V and 70V is 4500W. Bidirectional products 33V~58V are also 4500W.

3. Measured on 8.3ms single half sine wave or equivalent square wave for unidirectional components only,duty cvcle=4 per minute maximum.

4. Mounted on copper pad area of 0.31x0.31" (8.0 x 8.0mm) to each terminal.



Description

The 5.0SMDJxxS series, single chip design is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.

Features

- 5000W peak pulse power capability at 10/1000µs waveform, repetition rate (duty cycles):0.01%
- Recognized to UL 497B as an Isolated Loop Circuit Protector
- DO214AB SMT package for minimized board space
- Low profile package
- Typical failure mode is short from over-specified voltage or current
- Whisker test is conducted based on JEDEC JESD201A per its table 4a and 4c
- ESD protection of data lines in accordance with IEC 61000-4-2, ESD 30kV (Air), 30kV (Contact)
- EFT protection of data lines in accordance with IEC 61000-4-4
- Built-in strain relief
- Glass passivated chip junction
- Very fast response time

Excellent clamping capability

- Low incremental surge resistance
- Typical IR less than 2µA when VBR min>12V
- High temperature to reflow soldering guaranteed: 260°C/10sec
- VBR @ TJ= VBR@25°C x (1+αT) x (TJ - 25))(aT:Temperature Coefficient)
- UL Recognized compound meeting flammability rating V-0
- Meet MSL level1, per J-STD-020, LF maximun peak of 260°C
- Matte tin lead-free plated
- Halogen free and RoHS compliant
- Pb-free E3 means 2nd level interconnect is Pb-free and the terminal finish material is tin(Sn) (IPC/JEDEC J-STD-609A.01)

Applications

TVS components are ideal for the protection of I/O Interfaces, VCC bus and other vulnerable circuits used in Telecom, Computer, Industrial and Consumer electronic applications.

Functional Diagram Bi-directional Cathode Anode Uni-directional

5.0SMDJxxS Series Single Chip Design

UNI BI (Volt) Min Max Cold (Volt) (Volt) </th <th>Part Number (Uni)</th> <th>Part Number (Bi)</th> <th>Mar</th> <th>king</th> <th>Reverse Stand off Voltage V_R</th> <th>do Vol V (Vo</th> <th>eak- wn tage / BR olts) 2 I_T</th> <th>Test Cur- rent I_T</th> <th>Maximum Clamping Voltage VC @I_{pp} (10/1000µs)</th> <th>Maximum Peak Pulse Current I_{pp} (10/1000µs)</th> <th>Maxi- mum Clamp- ing Voltage V_c</th> <th>Maxi- mum Peak Pulse Current I_{pp}</th> <th>Maxi- mum Re- verse Leak- age</th> <th>Maxi- mum Tem- pera- ture coef- ficient</th> <th>Agency Ap- proval</th>	Part Number (Uni)	Part Number (Bi)	Mar	king	Reverse Stand off Voltage V _R	do Vol V (Vo	eak- wn tage / BR olts) 2 I _T	Test Cur- rent I _T	Maximum Clamping Voltage VC @I _{pp} (10/1000µs)	Maximum Peak Pulse Current I _{pp} (10/1000µs)	Maxi- mum Clamp- ing Voltage V _c	Maxi- mum Peak Pulse Current I _{pp}	Maxi- mum Re- verse Leak- age	Maxi- mum Tem- pera- ture coef- ficient	Agency Ap- proval
50SMDJ6.5AS 50SMDJ6.5CAS 5PAE 5BAE 6.5 722 728 10 11.2 446.4 14.5 245.2 500.0 0.052 X 50SMDJ70AS 50SMDJ70AS 50SMDJ70AS 50SMDJ76AS			UNI	BI	(Volts)	Min	Max	(mA)	(V)	(A)		(8/20µs)	I _R @V _R	ficient of V _{BR} (%/C)	91
SOSMDJ70AS SOSMDJ70AS SPAF SBAF 70 778 8.60 10 12.0 416.7 15.5 2219.9 20.0 0.058 X SOSMDJ7SAS SOSMDJ76AS SOSMDJ8.5CAS SPAF BAR 0.88 31 1 12.9 3876 16.7 2131.8 10.0 0.064 X SOSMDJ0AS SOSMDJ0AS SOSMDJASCAS SPAF BAR 0.0 11.1 1 11.6 32676 11.6 20.0 0.066 X SOSMDJ0AS SOSMDJ0AS SOSMDJAS SOSMDJAS SOSMDJAS 10.0 11.1 1 11.6 324.7 12.0 11.6 50.0 0.00 X SOSMDJ1AS SOSMDJ1ACAS SPAF SBAR 10.0 11.2 1 12.2 23.5 11.6 0.0 0.00 X 50.0 0.00 X 50.0 0.00 0.07 X 50.0 0.00 0.07 X 50.0 0.00 X 50.0 0.00 X 50.0 0.00 X 50.0 50.0 0.00 X<	5.0SMDJ6.0AS	5.0SMDJ6.0CAS	5PAB	5BAB	6.0	6.67	7.37	10	10.3	485.4	13.3	2669.7	800.0	0.046	Х
5.05MDJ76AS 5.05MDJ76AS 5PAG 5BAG 7.5 8.33 9.21 1 12.9 387.6 16.7 213.8 10.0 0.064 X 5.05MDJ8.DAS 5.05MDJ8.CAS 5PAM<5BAK	5.0SMDJ6.5AS	5.0SMDJ6.5CAS	5PAE	5BAE	6.5	7.22	7.98	10	11.2	446.4	14.5	2455.2	500.0	0.052	Х
5.0SMDJ8.0AS 5.0SMDJ8.CAS 5PAM 5BAK 8.0 8.89 9.83 1 13.6 3676 17.6 2021 50.0 0.066 X 5.0SMDJ9.0CAS 5.0SMDJ0.0CAS 5PAP 5BAM 5BAM 8.5 9.44 10.4 1 14.4 3472 19.9 1909.6 20.0 0.066 X 5.0SMDJ10.CAS 5PAP 5BAP 50.0 11.1 12.3 1 17.0 294.1 22.0 1817.6 5.0 0.071 X 5.0SMDJ12AS 5.0SMDJ12CAS 5PAP 5BAT 10.0 11.1 19.9 251.3 25.7 151.9 2.0 0.076 X 5.0SMDJ12AS 5.0SMDJ14CAS 5PAX 5BAX 13.0 14.4 15.9 1 24.1 23.0 118.2 2.0 0.076 X 5.0SMDJ16AS 5.0SMDJ16CAS 5PBE 5BBE 10.0 178 19.7 1 24.0 93.6 105.77 2.0 0.084 X 5.0SMDJ16AS 5.0SMDJ16AS 5.0SMDJ16AS 5.0SMDJ16AS 5.0SMDJ16AS 5.0SMDJ2AS 5.0SMDJ2AS 5.0SMDJ2AS 5.0SMDJ2AS <td>5.0SMDJ7.0AS</td> <td>5.0SMDJ7.0CAS</td> <td>5PAF</td> <td>5BAF</td> <td>7.0</td> <td>7.78</td> <td>8.60</td> <td>10</td> <td>12.0</td> <td>416.7</td> <td>15.5</td> <td>2291.9</td> <td>200.0</td> <td>0.058</td> <td>Х</td>	5.0SMDJ7.0AS	5.0SMDJ7.0CAS	5PAF	5BAF	7.0	7.78	8.60	10	12.0	416.7	15.5	2291.9	200.0	0.058	Х
5.0SMDJ8.5AS 5.0SMDJ8.5CAS 5PAM 5BAM 8.5 9.44 1.4 3472 18.6 1909 20.0 0.066 X 5.0SMDJ09.0AS 5.0SMDJ00.CAS 5PAP 5BAP 50.8 11 1 14.4 324.7 19.9 17785.9 10.0 0.066 X 5.0SMDJ10AS 5.0SMDJ1CAS 5PAP 5BAT 11.0 12.2 13.5 1 18.2 274.7 23.5 151.09 2.0 0.076 X 5.0SMDJ16AS 5.0SMDJ16AS 5PAV 5BAX 13.0 1.7 1 19.9 251.3 25.7 1382.2 2.0 0.076 X 5.0SMDJ16AS 5.0SMDJ16AS 5PAX 5BAX 13.0 1.67.18.5 1 24.4 204.9 31.5 1127.0 0.088 X 5.0SMDJ16AS 5.0SMDJ16AS 5PBE 5BE 18.0 16.7 18.1 24.4 24.9 33.6 165.77 2.0 0.088 X 5.0SMDJ16AS 5.0SMDJ16AS 5PBM 5BBM 10.0 18.19.7 1 24.6 181.2 35.7 96.6 2.0 0.089	5.0SMDJ7.5AS	5.0SMDJ7.5CAS	5PAG	5BAG	7.5	8.33	9.21	1	12.9	387.6	16.7	2131.8	100.0	0.061	Х
5.0SMDJ9.0AS 5.0SMDJ9.0CAS SPAP 5BAP 9.0 10.0 11.1 1 15.4 324.7 19.9 1785.9 10.0 0.069 X 5.0SMDJ10CAS 5.0SMDJ10CAS SPAP BAB 11.0 11.1 12.1 15.1 12.2 12.1 12.1 12.1 15.1 12.2 12.1 12.1 12.1 12.1 12.1 12.1 12.1 22.1 12.1 22.1 12.1 22.1 12.1 22.1 12.1 22.1 12.1 22.1 12.1 22.1 12.1 22.1 12.1 22.1 10.0 0.076 X 5.0SMDL14CAS 50SMDL14CAS 5PAZ 58AZ 14.0 16.1 12.1 22.2 215.5 30.0 1185.1 2.0 0.088 X 5.0SMDL17CAS SPBS 5BB 50.5 16.7 18.1 29.2 171.2 37.7 941.6 2.0 0.088 X 5.0SMDL20CAS 50.5 50.5 50.5 50.5 20.0 0.092 X 50.5 50.5 50.0 20.0	5.0SMDJ8.0AS	5.0SMDJ8.0CAS	5PAK	5BAK	8.0	8.89	9.83	1	13.6	367.6	17.6	2021.8	50.0	0.064	Х
50SMDJ10AS 50SMDJ10CAS SPAR 5BAR 10.0 11.1 12.3 1 170 294.1 22.0 1617.6 5.0 0.071 X 50SMDJ1CAS 50SMDJ1CAS SPAT 5BAT 11.0 12.2 13 14.7 1 19.9 251.3 25.7 132.2 0.076 X 50SMDJ1ACS 50SMDJ1ACS SPAX 5BAX 13.0 14.4 15.9 1 21.5 232.6 27.8 127.9 2.0 0.076 X 50SMDJ1ACS SOMDJ1ACS SPAX 5BAX 13.0 14.4 15.9 1 21.5 232.6 27.8 127.9 2.0 0.080 X 50SMDJ1ACS SOMDJ1ACS SPBX 5BAS 16.0 16.7 18.5 1 24.4 204.9 31.6 107.7 0.0080 X 50SMDJ1ACS SOMDJ1COS SPBK 5BB 180 20.0 22.1 1 26.0 117.2 37.7 94.16 2.0 0.092 X 50SMDJ2ACS SOMDJ2COS SOMDBMBBAB 180 22.0 12.7 13.2 14.4	5.0SMDJ8.5AS	5.0SMDJ8.5CAS	5PAM	5BAM	8.5	9.44	10.4	1	14.4	347.2	18.6	1909.6	20.0	0.066	Х
5.0SMDJ11AS 5.0SMDJ12AS 5.0SMDJ13AS 5.0SMDJ13AS 5.0SMDJ14AS 5.0SMDJ14AS 5.0SMDJ14AS 5.0SMDJ14AS 5.0SMDJ14AS 5.0SMDJ14AS 5.0SMDJ14AS 5.0SMDJ15CAS 5PBZ 5BE 16.0 17.8 1 21.5 22.3 3.6 10577 2.0 0.080 X 5.0SMDJ14AS 5.0SMDJ15CAS 5PBE 5BE 16.0 17.8 1 24.4 204.9 31.5 11270 2.0 0.083 X 5.0SMDJ17AS 5DSK 5BE 5BE 16.0 17.8 19.7 1 26.0 192.3 3.6 10577 2.0 0.084 X 5.0SMDJ17CAS 5PBE 5BBE 18.0 20.0 22.1 1 26.0 192.3 3.6 10577 2.0 0.083 X 5.0SMDJ2CAS 5PBF 5BBE 20.0 22.2 24.5 1 32.4 154.3 41.9 848.7	5.0SMDJ9.0AS	5.0SMDJ9.0CAS	5PAP	5BAP	9.0	10.0	11.1	1	15.4	324.7	19.9	1785.9	10.0	0.069	Х
50SMDJ12AS 50SMDJ12AS 5PAV 52N 120 133 14.1 1 19.9 251.3 25.7 1382.2 2.0 0.075 X 50SMDJ13AS 50SMDJ14AS 5PAX 5BAX 130 14.4 15 1 215 230.0 1185.3 2.0 0.076 X 50SMDJ14AS 50SMDJ14CAS 5PAX 5BAZ 14.0 156.172 1 24.4 204.9 31.5 11270 2.0 0.083 X 50SMDJ14CAS 5PAS 5BB 16.0 178.19.7 1 26.0 192.3 33.6 10577 2.0 0.084 X 50SMDJ14CAS 5PBM 5BB 16.0 178.19.7 1 26.0 192.3 33.6 10577 94.6 2.0 0.088 X 50SMDJ2AS 50SMDJ2CAS 5PBM 5BB 10.0 2.22.44.5 1 32.4 15.3 41.9 84.7 2.0 0.092 X 50SMDJ2AS 50SMDJ2CAS 5PBF 5BBT 2.0 2.67.25 1 35.5 140.4 10.1 5.7	5.0SMDJ10AS	5.0SMDJ10CAS	5PAR	5BAR	10.0	11.1	12.3	1	17.0	294.1	22.0	1617.6	5.0	0.071	Х
5.0SMDJ13AS 5.0SMDJ13CAS 5PAX 18.0 14.4 15.9 1 21.5 232.6 27.8 1279.3 2.0 0.076 X 5.0SMDJ14AS 5.0SMDJ16CAS SPBZ 5BAZ 14.0 15.6 172 1 23.2 215.5 30.0 1185.3 2.0 0.080 X 5.0SMDJ16CAS SPBZ 5BBE 16.0 17.8 1 24.4 20.9 31.5 1107.7 2.0 0.084 X 5.0SMDJ16CAS SPBZ 5BBE 16.0 178 19.7 1 26.0 192.3 33.6 1077 2.0 0.084 X 5.0SMDJ16CAS SPBZ SBBE 18.0 20.0 21.2 1 22.6 11.2 37.7 941.6 2.0 0.085 X 5.0SMDJ2CAS SPBZ SBBE 2.0 2.4.2 2.4.5 1 33.5 14.08 45.9 74.4 2.0 0.092 X 5.0SMDJ2AS S.OSMDJ2ACAS SPBZ SBBZ 2.0 2.7 2.5 1 38.9 <t< td=""><td>5.0SMDJ11AS</td><td>5.0SMDJ11CAS</td><td>5PAT</td><td>5BAT</td><td>11.0</td><td>12.2</td><td>13.5</td><td>1</td><td>18.2</td><td>274.7</td><td>23.5</td><td>1510.9</td><td>2.0</td><td>0.074</td><td>Х</td></t<>	5.0SMDJ11AS	5.0SMDJ11CAS	5PAT	5BAT	11.0	12.2	13.5	1	18.2	274.7	23.5	1510.9	2.0	0.074	Х
5.0SMDJ14AS 5.0SMDJ14CAS 5PAZ 5BAZ 14.0 15.6 172 1 23.2 215.5 30.0 1185.3 2.0 0.080 X 5.0SMDJ15AS 5.0SMDJ16CAS SPBE 5BBE 15.0 16.7 18.5 1 24.4 204.9 31.5 11720 2.0 0.083 X 5.0SMDJ16CAS SPBE 5BBE 16.0 178 19.7 1 26.0 19.3 33.6 10577 2.0 0.085 X 5.0SMDJ1ACAS SPBK 5BBR 10.0 18.9 20.0 22.2 14.5 1 32.4 154.3 41.9 84.7 2.0 0.091 X 5.0SMDJ2ACAS SPBF 5BBP 20.0 22.2 24.5 1 32.4 154.3 41.9 84.7 2.0 0.092 X 5.0SMDJ2ACAS SOSMDJ2ACAS SPBF 5BBP 20.0 22.9 1.4 14.8 45.9 74.4 2.0 0.092 X 5.0SMDJ2ACAS SOSMDJ2ACAS SPBF 5BBP 20.0 28.9 19.1 42.1 118.8 54.4	5.0SMDJ12AS	5.0SMDJ12CAS	5PAV	5BAV	12.0	13.3	14.7	1	19.9	251.3	25.7	1382.2	2.0	0.075	Х
5.0SMDJ15AS 5.0SMDJ15CAS 5PE 5BE 15.0 16.7 18.5 1 24.4 204.9 31.5 11270 2.0 0.083 X 5.0SMDJ16AS 5.0SMDJ17CAS 5PER 5BBG 16.0 17.8 19.7 1 26.0 192.3 33.6 1057.7 2.0 0.084 X 5.0SMDJ17CAS 5PER 5BBK 18.0 20.0 22.1 1 29.2 171.2 37.7 996.6 2.0 0.098 X 5.0SMDJ2AS 5.0SMDJ2CAS 5PER 5BBR 20.0 22.2 24.5 1 32.4 154.3 41.9 848.7 2.0 0.092 X 5.0SMDJ2CAS 5PER 5BBR 24.0 26.7 29.5 1 38.9 118.5 50.3 706.8 2.0 0.092 X 5.0SMDJ2ACAS 5PEN 5BBR 28.0 31.1 34.4 1 45.1 118.8 54.4 653.4 2.0 0.092 X 5.0SMDJ3CAS 5.0SMDJ3CAS 5PES 5BER 28.0 31.3 36.1 48.4 101.1	5.0SMDJ13AS	5.0SMDJ13CAS	5PAX	5BAX	13.0	14.4	15.9	1	21.5	232.6	27.8	1279.3	2.0	0.076	Х
5.0SMDJ16AS 5.0SMDJ16CAS 5PBG 5BBG 16.0 178 19.7 1 26.0 192.3 33.6 10577 2.0 0.084 X 5.0SMDJ17CAS 5DSMDJ17CAS 5PBK 5BBK 17.0 18.9 20.0 1 27.6 1812 37.7 941.6 2.0 0.085 X 5.0SMDJ20CAS 5PBF 5BBF 5BB 20.0 22.2 24.4 14 14.3 41.9 948.7 2.0 0.091 X 5.0SMDJ2CAS 5PBF 5BBF 24.0 26.7 25. 1 38.9 128.5 50.3 706.8 2.0 0.092 X 5.0SMDJ26AS 5DSMDJ26CAS 5PBF 5BBF 28.0 31.1 34.4 1 11.8 54.4 65.6 2.0 0.093 X 5.0SMDJ30AS 5.0SMDJ30CAS 5PBZ 5BBZ 30.0 33.7 40.6 1 53.3 93.9 68.9 516.5 2.0 0.097 X 5.0SMDJ30AS 5DSMDJ30CAS 5BCE 30.0 36.7 40.6	5.0SMDJ14AS	5.0SMDJ14CAS	5PAZ	5BAZ	14.0	15.6	17.2	1	23.2	215.5	30.0	1185.3	2.0	0.080	Х
5.0SMDJ17AS 5.0SMDJ17CAS 5PBK 5BBK 17.0 18.9 20.9 1 27.6 181.2 35.7 996.6 2.0 0.085 X 5.0SMDJ18AS 5.0SMDJ18CAS 5PBM 5BBM 18.0 20.0 22.2 1 1 29.2 171.2 37.7 941.6 2.0 0.098 X 5.0SMDJ2AGS 5.0SMDJ2CAS 5PBR 5BBR 22.0 24.4 64.9 1 35.5 14.08 45.9 77.4 2.0 0.092 X 5.0SMDJ2AGS 5.0SMDJ2CAS 5PBR 5BBR 24.0 26.7 29.5 1 38.9 128.5 50.3 706.8 2.0 0.092 X 5.0SMDJ2GAS 5.0SMDJ3CAS 5PBV 5BBV 28.0 31.1 34.4 1 45.4 100.1 58.7 656.6 2.0 0.096 X 5.0SMDJ3GAS 5.0SMDJ3CAS 5PBZ 5BBZ 30.0 33.3 36.7 40.6 1 53.3 93.9 68.9 516.5 2.0 0.096 X 5.0SMDJ3GAS 5DSMDJ3GAS 5BCE 30.0	5.0SMDJ15AS	5.0SMDJ15CAS	5PBE	5BBE	15.0	16.7	18.5	1	24.4	204.9	31.5	1127.0	2.0	0.083	Х
5.0SMDJ18AS 5.0SMDJ18CAS 5PBM 5BBM 18.0 200 22.2 1 1 29.2 171.2 37.7 941.6 2.0 0.088 X 5.0SMDJ20AS 5.0SMDJ20CAS 5PBP 5BBP 20.0 22.2 24.4 2.6 1 35.5 14.0.8 44.9 774.4 2.0 0.092 X 5.0SMDJ2CAS 5PBR 5BBT 24.0 26.7 29.5 1 38.9 128.5 50.3 706.8 2.0 0.092 X 5.0SMDJ26AS 5.0SMDJ26CAS 5PBV 5BBV 26.0 28.9 31.1 44.1 1 45.4 110.1 58.7 605.6 2.0 0.093 X 5.0SMDJ30AS 5.0SMDJ30CAS 5PBZ 5BBZ 30.0 33.3 36.8 1 48.4 103.3 62.5 568.2 2.0 0.096 X 5.0SMDJ30AS - 5PCB 33.0 36.7 40.6 1 53.3 84.4 68.9 516.5 2.0 0.097 X 5.0SMDJ30CAS - 5PCE	5.0SMDJ16AS	5.0SMDJ16CAS	5PBG	5BBG	16.0	17.8	19.7	1	26.0	192.3	33.6	1057.7	2.0	0.084	Х
5.0SMDJ20AS 5.0SMDJ20CAS 5PBP 5BBP 20.0 22.2 24.4 20 1 35.5 140.8 45.9 774.4 2.0 0.092 X 5.0SMDJ22AS 5.0SMDJ2CAS 5PBR 5BBR 22.0 24.4 20 1 35.5 140.8 45.9 774.4 2.0 0.092 X 5.0SMDJ2AS 5.0SMDJ2CAS 5PBT 5BBT 24.0 26.7 29.5 1 38.9 128.5 50.3 706.8 2.0 0.093 X 5.0SMDJ2GAS 50SMDJ3CAS 5PBX 5BBX 28.0 31.1 34.4 1 45.4 110.1 58.7 605.6 2.0 0.096 X 5.0SMDJ30AS 5.0SMDJ30CAS 5PCB 30.0 36.7 40.6 1 53.3 93.9 68.9 516.5 2.0 0.097 X 5.0SMDJ30AS - 5PCB 30.0 36.7 40.6 1 53.3 93.9 68.9 516.5 2.0 0.097 X 5.0SMDJ30AS - 5PCE 36.0	5.0SMDJ17AS	5.0SMDJ17CAS	5PBK	5BBK	17.0	18.9	20.9	1	27.6	181.2	35.7	996.6	2.0	0.085	Х
5.0SMDJ22AS 5.0SMDJ22CAS 5PBF 5BBF 24.0 26.7 29.5 1 38.9 128.5 50.3 706.8 2.0 0.092 X 5.0SMDJ24AS 5.0SMDJ24CAS 5PBF 5BBF 28.0 28.9 31.9 1 42.1 118.8 54.4 653.4 2.0 0.093 X 5.0SMDJ26AS 5.0SMDJ26CAS 5PBF 5BBZ 28.0 31.1 34.4 1 45.4 110.1 58.7 605.6 2.0 0.093 X 5.0SMDJ30AS 5.0SMDJ30CAS 5PBZ 5BBZ 30.0 36.7 40.6 1 53.3 93.9 68.9 516.5 2.0 0.097 X 5.0SMDJ30AS - 5PCB 33.0 36.7 40.6 1 53.3 93.9 68.9 516.5 2.0 0.097 X - 5.0SMDJ30CAS - 5BCE 30.0 40.0 44.2 1 58.1 77.1 430.5 2.0 0.098 X - 5.0SMDJ40CAS - 5BCF 40.0	5.0SMDJ18AS	5.0SMDJ18CAS	5PBM	5BBM	18.0	20.0	22.1	1	29.2	171.2	37.7	941.6	2.0	0.088	Х
5.0SMDJ24AS 5.0SMDJ24CAS 5PB 5BB 24.0 26.7 29.5 1 38.9 128.5 50.3 706.8 2.0 0.092 X 5.0SMDJ26AS 5.0SMDJ26CAS 5PBV 5BBV 26.0 28.9 31.9 1 42.1 118.8 54.4 653.4 2.0 0.093 X 5.0SMDJ36AS 5.0SMDJ36CAS 5PBX 5BBZ 28.0 31.1 34.4 1 45.4 101.1 58.7 605.6 2.0 0.094 X 5.0SMDJ36AS 5.0SMDJ36CAS 5PBZ 5BEZ 30.0 33.3 36.7 1 53.3 93.9 68.9 516.5 2.0 0.097 X 5.0SMDJ36AS - 5PCE - 36.0 40.0 44.2 1 58.1 86.1 75.1 430.5 2.0 0.098 X 5.0SMDJ40AS - 5PCF - 40.0 44.4 49.1 1 64.5 69.8 83.3 38.0 2.0 0.099 X 5.0SMDJ40AS - 5PCF 40.0<	5.0SMDJ20AS	5.0SMDJ20CAS	5PBP	5BBP	20.0	22.2	24.5	1	32.4	154.3	41.9	848.7	2.0	0.091	Х
5.0SMDJ26AS 5.0SMDJ26AS 5PBV 5BV 26.0 28.9 31.9 1 42.1 118.8 54.4 65.34 2.0 0.093 X 5.0SMDJ28AS 5.0SMDJ28CAS 5PBX 5BBX 28.0 31.1 34.4 1 45.4 110.1 58.7 605.6 2.0 0.094 X 5.0SMDJ30AS 5.0SMDJ30CAS 5PBZ 5BEZ 30.0 33.3 36.8 1 48.4 103.3 62.5 568.2 2.0 0.097 X 5.0SMDJ33AS - 5PCE - 36.0 40.0 41.2 1 58.1 86.1 75.1 430.5 2.0 0.097 X 5.0SMDJ40AS - 5PCE - 36.0 40.0 44.2 1 58.1 77.5 75.1 430.5 2.0 0.098 X 5.0SMDJ40AS - 5PCF - 40.0 44.4 49.1 1 64.5 69.8 83.3 388.0 2.0 0.099 X 5.0SMDJ40AS - 5PCF - 4	5.0SMDJ22AS	5.0SMDJ22CAS	5PBR	5BBR	22.0	24.4	26.9	1	35.5	140.8	45.9	774.4	2.0	0.092	Х
5.0SMDJ28AS 5.0SMDJ28CAS 5PBX 5BBX 28.0 31.1 34.4 1 45.4 110.1 58.7 605.6 2.0 0.094 X 5.0SMDJ30AS 5.0SMDJ30CAS 5PBZ 5BBZ 30.0 33.3 36.8 1 48.4 103.3 62.5 568.2 2.0 0.096 X 5.0SMDJ33AS - 5PCB - 33.0 36.7 40.6 1 53.3 93.9 68.9 516.5 2.0 0.097 X 5.0SMDJ36AS - 5PCE - 36.0 40.0 44.2 1 58.1 86.1 75.1 430.5 2.0 0.098 X 5.0SMDJ40AS - 5PCE - 36.0 40.0 44.2 1 64.5 69.8 83.3 388.0 2.0 0.099 X 5.0SMDJ40AS - 5PCG - 43.0 47.8 52.8 1 69.4 72.1 89.7 360.5 2.0 0.100 X 5.0SMDJ43CAS - 5BCF 43.0 47.8	5.0SMDJ24AS	5.0SMDJ24CAS	5PBT	5BBT	24.0	26.7	29.5	1	38.9	128.5	50.3	706.8	2.0	0.092	Х
5.0SMDJ30AS 5.0SMDJ30AS 5.PBZ 5BBZ 30.0 33.3 36.8 1 48.4 103.3 62.5 568.2 2.0 0.096 X 5.0SMDJ33AS - 5PCB - 33.0 36.7 40.6 1 53.3 93.9 68.9 516.5 2.0 0.097 X - 5.0SMDJ33CAS - 5BCB 33.0 36.7 40.6 1 53.3 84.4 68.9 516.5 2.0 0.097 X 5.0SMDJ36AS - 5PCE - 36.0 40.0 44.2 1 58.1 75.1 430.5 2.0 0.098 X 5.0SMDJ40AS - 5PCF - 40.0 44.4 49.1 1 64.5 77.6 83.3 38.80 2.0 0.098 X 5.0SMDJ40AS - 5PCF - 40.0 44.4 49.1 1 64.5 69.8 83.3 38.80 2.0 0.098 X 5.0SMDJ43AS - 5PCF 43.0 47.8 52.8 1 <td>5.0SMDJ26AS</td> <td>5.0SMDJ26CAS</td> <td>5PBV</td> <td>5BBV</td> <td>26.0</td> <td>28.9</td> <td>31.9</td> <td>1</td> <td>42.1</td> <td>118.8</td> <td>54.4</td> <td>653.4</td> <td>2.0</td> <td>0.093</td> <td>Х</td>	5.0SMDJ26AS	5.0SMDJ26CAS	5PBV	5BBV	26.0	28.9	31.9	1	42.1	118.8	54.4	653.4	2.0	0.093	Х
5.0SMDJ33AS - 5PCB - 33.0 36.7 40.6 1 53.3 93.9 68.9 516.5 2.0 0.097 X - 5.0SMDJ33CAS - 5BCB 33.0 36.7 40.6 1 53.3 84.4 68.9 516.5 2.0 0.097 X 5.0SMDJ36AS - 5PCE - 36.0 40.0 44.2 1 58.1 86.1 75.1 430.5 2.0 0.098 X 5.0SMDJ40AS - 5PCF - 40.0 44.4 49.1 1 64.5 77.6 83.3 388.0 2.0 0.099 X 5.0SMDJ40AS - 5PCF - 40.0 44.4 49.1 1 64.5 69.8 83.3 388.0 2.0 0.099 X 5.0SMDJ43AS - 5PCG - 43.0 478 52.8 1 69.4 72.1 89.7 360.5 2.0 0.100 X 5.0SMDJ43AS - 5PCG - 45.0 50.5 5 <td>5.0SMDJ28AS</td> <td>5.0SMDJ28CAS</td> <td>5PBX</td> <td>5BBX</td> <td>28.0</td> <td>31.1</td> <td>34.4</td> <td>1</td> <td>45.4</td> <td>110.1</td> <td>58.7</td> <td>605.6</td> <td>2.0</td> <td>0.094</td> <td>Х</td>	5.0SMDJ28AS	5.0SMDJ28CAS	5PBX	5BBX	28.0	31.1	34.4	1	45.4	110.1	58.7	605.6	2.0	0.094	Х
- 5.0SMDJ33CAS - 5BCB 33.0 36.7 40.6 1 53.3 84.4 68.9 516.5 2.0 0.097 X 5.0SMDJ36AS - 5PCE - 36.0 40.0 44.2 1 58.1 86.1 75.1 430.5 2.0 0.098 X 5.0SMDJ40AS - 5PCF - 40.0 44.4 49.1 1 64.5 77.6 83.3 38.0 2.0 0.099 X 5.0SMDJ40AS - 5PCF - 40.0 44.4 49.1 1 64.5 69.8 83.3 38.0 2.0 0.099 X 5.0SMDJ43AS - 5PCF - 40.0 44.4 49.1 1 64.5 69.8 83.3 38.0 2.0 0.109 X 5.0SMDJ4SAS - 5PCF - 43.0 47.8 52.8 1 69.4 64.8 89.7 360.5 2.0 0.100 X 5.0SMDJ4SAS - 5PCK - 45.0 50.5 5.1 <td>5.0SMDJ30AS</td> <td>5.0SMDJ30CAS</td> <td>5PBZ</td> <td>5BBZ</td> <td>30.0</td> <td>33.3</td> <td>36.8</td> <td>1</td> <td>48.4</td> <td>103.3</td> <td>62.5</td> <td>568.2</td> <td>2.0</td> <td>0.096</td> <td>Х</td>	5.0SMDJ30AS	5.0SMDJ30CAS	5PBZ	5BBZ	30.0	33.3	36.8	1	48.4	103.3	62.5	568.2	2.0	0.096	Х
5.0SMDJ36AS - 5PCE - 36.0 40.0 44.2 1 58.1 86.1 75.1 430.5 2.0 0.098 X 5.0SMDJ36CAS - 5BCE 36.0 40.0 44.2 1 58.1 77.5 75.1 430.5 2.0 0.098 X 5.0SMDJ40AS - 5PCF - 40.0 44.4 49.1 1 664.5 69.8 83.3 388.0 2.0 0.099 X 5.0SMDJ40AS - 5BCF 40.0 44.4 49.1 1 664.5 69.8 83.3 388.0 2.0 0.099 X 5.0SMDJ43AS - 5BCF 43.0 47.8 52.8 1 69.4 72.1 89.7 360.5 2.0 0.100 X 5.0SMDJ45AS - 5BCF 43.0 47.8 52.8 1 72.7 68.8 93.9 344.0 2.0 0.101 X 5.0SMDJ45AS - 5BCK 45.0 50.5 51 1 72.7 61.9 93.9	5.0SMDJ33AS	-	5PCB	-	33.0	36.7	40.6	1	53.3	93.9	68.9	516.5	2.0	0.097	Х
- 5.0SMDJ36CAS - 5BCE 36.0 40.0 44.2 1 58.1 77.5 75.1 430.5 2.0 0.098 X 5.0SMDJ40AS - 5PCF - 40.0 44.4 49.1 1 64.5 77.6 83.3 388.0 2.0 0.099 X 5.0SMDJ40AS - 5BCF 40.0 44.4 49.1 1 64.5 69.8 83.3 388.0 2.0 0.099 X 5.0SMDJ43AS - 5PCG - 43.0 47.8 52.8 1 69.4 72.1 89.7 360.5 2.0 0.100 X 5.0SMDJ45AS - 5BCG 43.0 47.8 52.8 1 69.4 64.8 89.7 360.5 2.0 0.100 X 5.0SMDJ45AS - 5BCK 45.0 50.0 55.3 1 72.7 68.8 93.9 344.0 2.0 0.101 X 5.0SMDJ40AS - 5BCK 45.0 50.5 51 77.4 64.7 100.0	-	5.0SMDJ33CAS	-	5BCB	33.0	36.7	40.6	1	53.3	84.4	68.9	516.5	2.0	0.097	Х
5.0SMDJ40AS - 5PCF - 40.0 44.4 49.1 1 64.5 776 83.3 388.0 2.0 0.099 X 5.0SMDJ40AS - 5BCF 40.0 44.4 49.1 1 64.5 69.8 83.3 388.0 2.0 0.099 X 5.0SMDJ43AS - 5PCG - 43.0 47.8 52.8 1 69.4 72.1 89.7 360.5 2.0 0.100 X - 5.0SMDJ43CAS - 5BCG 43.0 47.8 52.8 1 69.4 64.8 89.7 360.5 2.0 0.100 X 5.0SMDJ45AS - 5PCK - 45.0 50.5 5.3 1 72.7 68.8 93.9 344.0 2.0 0.101 X 5.0SMDJ48AS - 5PCK - 48.0 53.3 58.9 1 77.4 64.7 100.0 323.5 2.0 0.101 X 5.0SMDJ40AS - 5PCP - 48.0 53.5 58.9 1	5.0SMDJ36AS	-	5PCE	-	36.0	40.0	44.2	1	58.1	86.1	75.1	430.5	2.0	0.098	Х
- 5.0SMDJ40CAS - 5BCF 40.0 44.4 49.1 1 64.5 69.8 83.3 388.0 2.0 0.099 X 5.0SMDJ43AS - 5PCG - 43.0 47.8 52.8 1 69.4 72.1 89.7 360.5 2.0 0.100 X - 5.0SMDJ43CAS - 5BCG 43.0 47.8 52.8 1 69.4 64.8 89.7 360.5 2.0 0.100 X 5.0SMDJ45AS - 5PCK - 45.0 50.0 55.3 1 72.7 68.8 93.9 344.0 2.0 0.101 X - 5.0SMDJ45CAS - 5BCK 45.0 50.0 55.3 1 72.7 61.9 93.9 344.0 2.0 0.101 X 5.0SMDJ48AS - 5BCK 45.0 50.3 58.9 1 77.4 64.7 100.0 323.5 2.0 0.101 X 5.0SMDJ51AS - 5BCK 48.0 53.3 58.9 1 <	-	5.0SMDJ36CAS	-	5BCE	36.0	40.0	44.2	1	58.1	77.5	75.1	430.5	2.0	0.098	Х
5.0SMDJ43AS - 5PCG - 43.0 47.8 52.8 1 69.4 72.1 89.7 360.5 2.0 0.100 X - 5.0SMDJ43CAS - 5BCG 43.0 47.8 52.8 1 69.4 64.8 89.7 360.5 2.0 0.100 X 5.0SMDJ45AS - 5PCK - 45.0 50.0 55.3 1 72.7 68.8 93.9 344.0 2.0 0.101 X - 5.0SMDJ45CAS - 5BCK 45.0 50.0 55.3 1 72.7 61.9 93.9 344.0 2.0 0.101 X 5.0SMDJ48AS - 5PCM - 48.0 53.3 58.9 1 77.4 64.7 100.0 323.5 2.0 0.101 X 5.0SMDJ48CAS - 5BCM 48.0 53.3 58.9 1 77.4 58.1 100.0 323.5 2.0 0.101 X 5.0SMDJ51CAS - 5BCP 51.0 56.7 62.7 1	5.0SMDJ40AS	-	5PCF	-	40.0	44.4	49.1	1	64.5	77.6	83.3	388.0	2.0	0.099	Х
- 5.0SMDJ43CAS - 5BCG 43.0 47.8 52.8 1 69.4 64.8 89.7 360.5 2.0 0.100 X 5.0SMDJ45AS - 5PCK - 45.0 50.0 55.3 1 72.7 68.8 93.9 344.0 2.0 0.101 X - 5.0SMDJ45CAS - 5BCK 45.0 50.0 55.3 1 72.7 68.8 93.9 344.0 2.0 0.101 X 5.0SMDJ48AS - 5PCM - 48.0 53.3 58.9 1 77.4 64.7 100.0 323.5 2.0 0.101 X 5.0SMDJ48CAS - 5BCM 48.0 53.3 58.9 1 77.4 64.7 100.0 323.5 2.0 0.101 X 5.0SMDJ51AS - 5BCM 48.0 53.3 58.9 1 77.4 58.1 100.0 323.5 2.0 0.101 X 5.0SMDJ51AS - 5BCP 51.0 56.7 62.7 1 82.4	-	5.0SMDJ40CAS	-	5BCF	40.0	44.4	49.1	1	64.5	69.8	83.3	388.0	2.0	0.099	Х
5.0SMDJ45AS - 5PCK - 45.0 50.0 55.3 1 72.7 68.8 93.9 344.0 2.0 0.101 X - 5.0SMDJ45CAS - 5BCK 45.0 50.0 55.3 1 72.7 61.9 93.9 344.0 2.0 0.101 X 5.0SMDJ48AS - 5PCM - 48.0 53.3 58.9 1 77.4 64.7 100.0 323.5 2.0 0.101 X - 5.0SMDJ48CAS - 5BCM 48.0 53.3 58.9 1 77.4 64.7 100.0 323.5 2.0 0.101 X - 5.0SMDJ48CAS - 5BCM 48.0 53.3 58.9 1 77.4 58.1 100.0 323.5 2.0 0.101 X 5.0SMDJ51AS - 5BCP 51.0 56.7 62.7 1 82.4 60.7 106.5 303.5 2.0 0.101 X 5.0SMDJ51CAS - 5BCP 51.0 56.7 62.7 1	5.0SMDJ43AS	-	5PCG	-	43.0	47.8	52.8	1	69.4	72.1	89.7	360.5	2.0	0.100	Х
- 5.0SMDJ45CAS - 5BCK 45.0 50.0 55.3 1 72.7 61.9 93.9 344.0 2.0 0.101 X 5.0SMDJ48AS - 5PCM - 48.0 53.3 58.9 1 77.4 64.7 100.0 323.5 2.0 0.101 X - 5.0SMDJ48CAS - 5BCM 48.0 53.3 58.9 1 77.4 64.7 100.0 323.5 2.0 0.101 X - 5.0SMDJ48CAS - 5BCM 48.0 53.3 58.9 1 77.4 58.1 100.0 323.5 2.0 0.101 X 5.0SMDJ51AS - 5PCP - 51.0 56.7 62.7 1 82.4 60.7 106.5 303.5 2.0 0.101 X 5.0SMDJ51CAS - 5BCP 51.0 56.7 62.7 1 82.4 54.6 106.5 303.5 2.0 0.101 X 5.0SMDJ54CAS - 5BCP 51.0 66.7 62.7 1	-	5.0SMDJ43CAS	-	5BCG	43.0	47.8	52.8	1	69.4	64.8	89.7	360.5	2.0	0.100	Х
5.0SMDJ48AS - 5PCM - 48.0 53.3 58.9 1 77.4 64.7 100.0 323.5 2.0 0.101 X - 5.0SMDJ48CAS - 5BCM 48.0 53.3 58.9 1 77.4 58.1 100.0 323.5 2.0 0.101 X 5.0SMDJ48CAS - 5PCP - 51.0 56.7 62.7 1 82.4 60.7 106.5 303.5 2.0 0.101 X 5.0SMDJ51AS - 5BCP 51.0 56.7 62.7 1 82.4 60.7 106.5 303.5 2.0 0.101 X 5.0SMDJ51CAS - 5BCP 51.0 56.7 62.7 1 82.4 54.6 106.5 303.5 2.0 0.101 X 5.0SMDJ54CAS - 5BCP 51.0 56.7 62.7 1 82.4 54.6 106.5 303.5 2.0 0.101 X 5.0SMDJ54CAS - 5BCP 51.0 66.3 1 87.1 51.7 112.	5.0SMDJ45AS	-	5PCK	-	45.0	50.0	55.3	1	72.7	68.8	93.9	344.0	2.0	0.101	Х
- 5.0SMDJ48CAS - 5BCM 48.0 53.3 58.9 1 77.4 58.1 100.0 323.5 2.0 0.101 X 5.0SMDJ51AS - 5PCP - 51.0 56.7 62.7 1 82.4 60.7 106.5 303.5 2.0 0.101 X - 5.0SMDJ51CAS - 5BCP 51.0 56.7 62.7 1 82.4 60.7 106.5 303.5 2.0 0.101 X 5.0SMDJ51CAS - 5BCP 51.0 56.7 62.7 1 82.4 54.6 106.5 303.5 2.0 0.101 X 5.0SMDJ54AS - 5BCP 51.0 66.7 62.7 1 82.4 54.6 106.5 303.5 2.0 0.101 X 5.0SMDJ54AS - 5PCR - 54.0 60.0 66.3 1 87.1 51.7 112.5 287.5 2.0 0.102 X 5.0SMDJ58AS - 5PCT - 58.0 64.4 71.2 1	-	5.0SMDJ45CAS	-	5BCK	45.0	50.0	55.3	1	72.7	61.9	93.9	344.0	2.0	0.101	Х
5.0SMDJ51AS - 5PCP - 51.0 56.7 62.7 1 82.4 60.7 106.5 303.5 2.0 0.101 X 5.0SMDJ51CAS - 5BCP 51.0 56.7 62.7 1 82.4 54.6 106.5 303.5 2.0 0.101 X 5.0SMDJ54AS - 5PCR - 54.0 60.7 1 82.4 54.6 106.5 303.5 2.0 0.101 X 5.0SMDJ54AS - 5PCR - 54.0 60.7 1 87.1 57.5 112.5 287.5 2.0 0.102 X - 5.0SMDJ54CAS - 58CR 54.0 60.7 1 87.1 51.7 112.5 287.5 2.0 0.102 X 5.0SMDJ58AS - 58CR 54.0 60.4 71.2 1 93.6 53.5 120.9 267.5 2.0 0.103 X 5.0SMDJ58AS - 58CT 58.0 64.4 71.2 1 93.6 48.1 120.9 267.5 <td>5.0SMDJ48AS</td> <td>-</td> <td>5PCM</td> <td>-</td> <td>48.0</td> <td>53.3</td> <td>58.9</td> <td>1</td> <td>77.4</td> <td>64.7</td> <td>100.0</td> <td>323.5</td> <td>2.0</td> <td>0.101</td> <td>Х</td>	5.0SMDJ48AS	-	5PCM	-	48.0	53.3	58.9	1	77.4	64.7	100.0	323.5	2.0	0.101	Х
- 5.0SMDJ51CAS - 5BCP 51.0 56.7 62.7 1 82.4 54.6 106.5 303.5 2.0 0.101 X 5.0SMDJ54AS - 5PCR - 54.0 60.0 66.3 1 87.1 57.5 112.5 287.5 2.0 0.102 X - 5.0SMDJ54CAS - 5BCR 54.0 60.0 66.3 1 87.1 51.7 112.5 287.5 2.0 0.102 X 5.0SMDJ58AS - 5PCT - 58.0 64.4 71.2 1 93.6 53.5 120.9 267.5 2.0 0.103 X - 5.0SMDJ58CAS - 58CT 58.0 64.4 71.2 1 93.6 48.1 120.9 267.5 2.0 0.103 X - 5.0SMDJ58CAS - 58.0 64.4 71.2 1 93.6 48.1 120.9 267.5 2.0 0.103 X	-	5.0SMDJ48CAS	-	5BCM	48.0	53.3	58.9	1	77.4	58.1	100.0	323.5	2.0	0.101	Х
5.0SMDJ54AS - 5PCR - 54.0 60.0 66.3 1 87.1 57.5 112.5 287.5 2.0 0.102 X - 5.0SMDJ54CAS - 5BCR 54.0 60.0 66.3 1 87.1 51.7 112.5 287.5 2.0 0.102 X 5.0SMDJ58AS - 5PCT - 580. 64.4 71.2 1 93.6 53.5 120.9 267.5 2.0 0.103 X - 5.0SMDJ58CAS - 58CT 58.0 64.4 71.2 1 93.6 48.1 120.9 267.5 2.0 0.103 X	5.0SMDJ51AS	-	5PCP	-	51.0	56.7	62.7	1	82.4	60.7	106.5	303.5	2.0	0.101	Х
- 5.0SMDJ54CAS - 5BCR 54.0 60.0 66.3 1 87.1 51.7 112.5 287.5 2.0 0.102 X 5.0SMDJ58AS - 5PCT - 580. 64.4 71.2 1 93.6 53.5 120.9 267.5 2.0 0.103 X - 5.0SMDJ58CAS - 5BCT 58.0 64.4 71.2 1 93.6 48.1 120.9 267.5 2.0 0.103 X	-	5.0SMDJ51CAS	-	5BCP	51.0	56.7	62.7	1	82.4	54.6	106.5	303.5	2.0	0.101	Х
5.0SMDJ58AS - 5PCT - 58.0 64.4 71.2 1 93.6 53.5 120.9 267.5 2.0 0.103 X - 5.0SMDJ58CAS - 5BCT 58.0 64.4 71.2 1 93.6 53.5 120.9 267.5 2.0 0.103 X	5.0SMDJ54AS	-	5PCR	-	54.0	60.0	66.3	1	87.1	57.5	112.5	287.5	2.0	0.102	Х
- 5.0SMDJ58CAS - 5BCT 58.0 64.4 71.2 1 93.6 48.1 120.9 267.5 2.0 0.103 X	-	5.0SMDJ54CAS	-	5BCR	54.0	60.0	66.3	1	87.1	51.7	112.5	287.5	2.0	0.102	Х
	5.0SMDJ58AS	-	5PCT	-	58.0	64.4	71.2	1	93.6	53.5	120.9	267.5	2.0	0.103	Х
5.0SMD.160AS - 5PCV - 60.0 66.7.73.7 1 96.8 51.7 125.1 258.5 2.0 0.103 X	-	5.0SMDJ58CAS	-	5BCT	58.0	64.4	71.2	1	93.6	48.1	120.9	267.5	2.0	0.103	Х
	5.0SMDJ60AS	-	5PCV	-	60.0	66.7	73.7	1	96.8	51.7	125.1	258.5	2.0	0.103	Х

Electrical Characteristics (T_A=25°C unless otherwise noted)

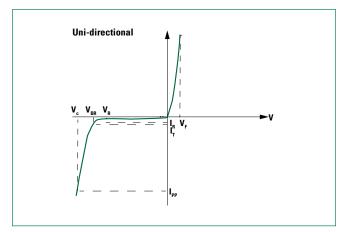
For bidirectional type having $V_{_{\rm R}}$ of 10 volts and less, the $\rm I_{_{\rm R}}$ limit is double.

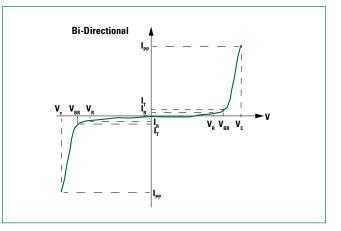


TVS Diodes Datasheet

5.0SMDJxxS Series Single Chip Design

I-V Curve Characteristics





- P_{PPM} Peak Pulse Power Dissipation - Max power dissipation
- V_R V_{BR} V_C Stand-off Voltage -- Maximum voltage that can be applied to the TVS without operation
- Breakdown Voltage Maximum voltage that flows though the TVS at a specified test current (I_T)
- Clamping Voltage -- Peak voltage measured across the TVS at a specified lppm (peak impulse current)
- Reverse Leakage Current -- Current measured at V.
- Forward Voltage Drop for Uni-directional

Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

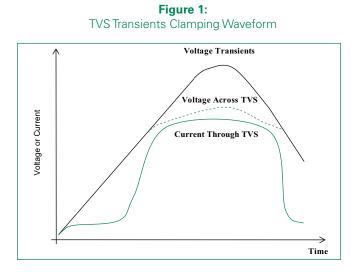
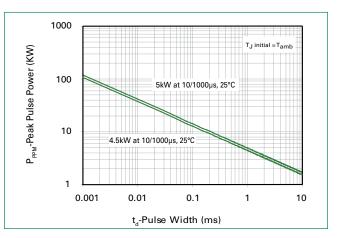


Figure 2: Peak Pulse Power Rating



TJ=25°C Pulse Width(td) is defined as the point where the peak current decays to 50% of IPPM

10/1000µsec. Waveform as defined by R.E.A

3.0

4.0

5.0SMDJxxS Series Single Chip Design

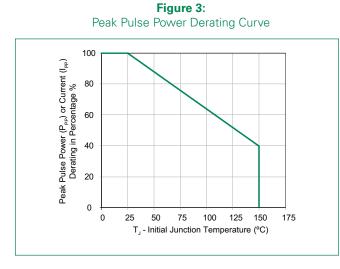


Figure 5: Typical Junction Capacitance

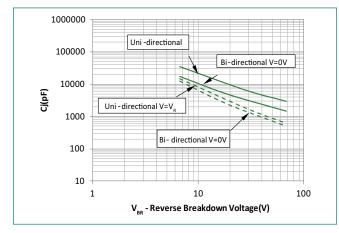


Figure 7: Maximum Non-Repetitive Peak Forward Surge Current Uni-Directional Only

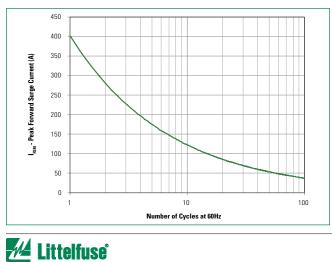


Figure 8: Peak Forward Voltage Drop vs Peak Forward Current (Typical Values)

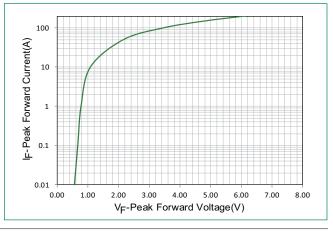


Figure 6:

2.0

t-Time (ms)

Figure 4:

Pulse Waveform

Half Value

IPPM $\left(\frac{IPPM}{2}\right)$

t_r=10µsec

Peak Value

IPPM

1.0

150

100

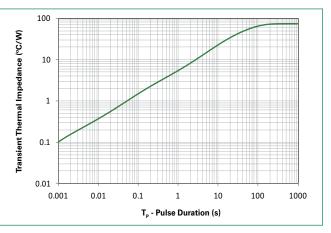
50

0

0

l_{PPM}- Peak Pulse Current, % I_{RSM}

Typical Transient Thermal Impedance



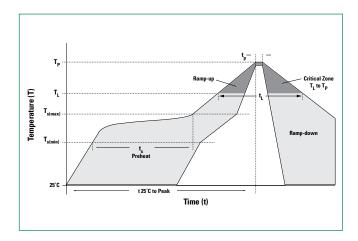
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TVS Diodes Datasheet

5.0SMDJxxS Series Single Chip Design

Soldering Parameters

Reflow Cond	lition	Lead–free assembly		
	- Temperature Min (T _{s(min)})	150°C		
Pre Heat	- Temperature Max (T _{s(max)})	200°C		
	-Time (min to max) (t _L)	60 - 180 secs		
Average ram peak	p up rate (Liquidus Temp (T _L) to	3°C/second max		
$T_{S(max)}$ to T_L -	Ramp-up Rate	3°C/second max		
Reflow	- Temperature (T _L) (Liquidus)	217°C		
nellow	-Time (min to max) (t _L)	60 – 150 seconds		
Peak Temper	ature (T _P)	260 ^{+0/-5} °C		
Time within	5°C of actual peak Temperature (t _p)	20 – 40 seconds		
Ramp-down	Rate	6°C/second max		
Time 25°C to	peak Temperature (T _P)	8 minutes Max.		
Do not excee	ed	260°C		



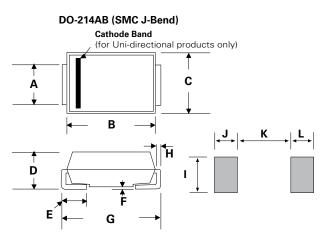
Physical Specifications

Weight	0.007 ounce, 0.21 grams
Case	JEDEC DO214AB. Molded compound body over glass passivated junction
Polarity	Color band denotes positive end (cathode) except for bidirectional versions.
Terminal	Matte Tin-plated leads, Solderable per JESD22-B102

Environmental Specifications

High Temp. Storage	JESD22-A103
HTRB	JESD22-A108
Temperature Cycling	JESD22-A104
MSL	JEDEC-J-STD-020, Level 1
H3TRB	JESD22-A101
RSH	JESD22-A111

Dimensions



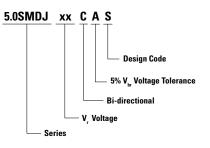
Dimensions	Inc	hes	Millimeters			
Dimensions	Min	Max	Min	Max		
Α	0.114	0.126	2.900	3.200		
В	0.260	0.280	6.600	7.110		
С	0.220	0.245	5.590	6.220		
D	0.079	0.103	2.060	2.620		
E	0.030	0.060	0.760	1.520		
F	-	0.008	-	0.203		
G	0.305	0.320	7.750	8.130		
н	0.006	0.012	0.152	0.305		
I	0.129	-	3.300	-		
J	0.094	-	2.400	-		
к	-	0.165	-	4.200		
L	0.094	-	2.400	-		



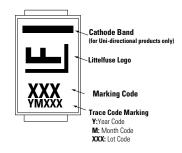
Packaging Options

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
5.0SMDJxxXXS	DO-214AB	3000	Tape & Reel - 16mm tape/13" reel	EIA STD RS-481

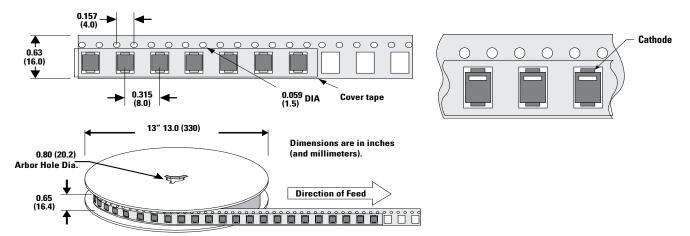
Part Numbering System



Part Marking System



Tape and Reel Specification



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