



Features

- For surface mounted applications in order to optimize board space
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Excellent clamping capability
- 1500W peak pulse power capability at 10/1000μs waveform, repetition rate (duty cycle): 0.01%
- Fast response time
- Typical I_R less than 1μA above 12V
- High Temperature soldering: 260°C/10 seconds at terminals
- Plastic package has underwriters laboratory flammability 94V-0



SMC
(DO-214AB)

Mechanical Data

- Case: JEDEC SMC(DO-214AB)
Molded plastic over glass passivated junction
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity Color band denotes cathode except bi-directional models
- Standard Packaging 16mm tape (EIA STD RS-481)
- Weight: 0.26g

Applications

- I/O interface
- AC/DC power supply
- Low frequency signal transmission line (RS232, RS485, etc.)

Maximum Ratings (Ta=25°C unless otherwise noted)

Peak pulse power dissipation at 10/1000μs waveform (Note1, Note2, Fig.1)	P_{PPM}	1500	W
Peak pulse current	I_{PP}	See Table	A
Steady state power dissipation at $T_A=50^\circ\text{C}$ (Fig.5)	$P_{M(AV)}$	6.5	W
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load, (JEDEC Method) (Note3, Fig.6)	I_{FSM}	200	A
Operating junction and Storage Temperature Range.	T_J, T_{STG}	-65 to +150	°C
Typical thermal resistance junction to lead	$R_{\theta JL}$	15	°C/W
Typical thermal resistance junction to ambient	$R_{\theta JA}$	75	°C/W

Notes: 1. Non-repetitive current pulse, per Fig.3 and derated above $T_A=25^\circ\text{C}$ per Fig.2.

2. Mounted on 8.0mm×8.0mm copper pads to each terminal.

3. 8.3ms single half sine-wave, or equivalent square wave, duty cycle=4 pulses per minutes maximum.



Electrical Characteristics (Ta=25°C)

Part Number		Marking		Reverse Stand-Off Voltage	Breakdown Voltage V_{BR} (V) @ I_T		Test Current	Maximum Clamping Voltage@ I_{PP}	Peak Pulse Current	Reverse Leakage @ V_{RWM}
Uni	Bi	Uni	Bi	V_{RWM} (V)	Min.	Max.	I_T (mA)	V_C (V)	I_{PP} (A)	I_R (μ A)
SM15T6V8A	SM15T6V8CA	6V8A	6V8C	5.8	6.45	7.14	10	10.5	144.8	1000
SM15T7V5A	SM15T7V5CA	7V5A	7V5C	6.4	7.13	7.88	10	11.3	134.5	500
SM15T8V2A	SM15T8V2CA	8V2A	8V2C	7.02	7.79	8.61	10	12.1	125.6	200
SM15T9V1A	SM15T9V1CA	9V1A	9V1C	7.78	8.65	9.5	1	13.4	113.4	50
SM15T10A	SM15T10CA	10A	10A	8.55	9.5	10.5	1	14.5	104.8	10
SM15T11A	SM15T11CA	11A	11C	9.4	10.5	11.6	1	15.6	97.4	5
SM15T12A	SM15T12CA	12A	12C	10.2	11.4	12.6	1	16.7	91.0	5
SM15T13A	SM15T13CA	13A	13C	11.1	12.4	13.7	1	18.2	83.5	1
SM15T15A	SM15T15CA	15A	15C	12.8	14.3	15.8	1	21.2	71.7	1
SM15T16A	SM15T16CA	16A	16C	13.6	15.2	16.8	1	22.5	67.6	1
SM15T18A	SM15T18CA	18A	18C	15.3	17.1	18.9	1	25.2	60.3	1
SM15T20A	SM15T20CA	20A	20C	17.1	19	21	1	27.7	54.9	1
SM15T22A	SM15T22CA	22A	22C	18.8	20.9	23.1	1	30.6	49.7	1
SM15T24A	SM15T24CA	24A	24C	20.5	22.8	25.2	1	33.2	45.8	1
SM15T27A	SM15T27CA	27A	27C	23.1	25.7	28.4	1	37.5	40.5	1
SM15T30A	SM15T30CA	30A	30C	25.6	28.5	31.5	1	41.4	36.7	1
SM15T33A	SM15T33CA	33A	33C	28.2	31.4	34.7	1	45.7	33.3	1
SM15T36A	SM15T36CA	36A	36C	30.8	34.2	37.8	1	49.9	30.5	1
SM15T39A	SM15T39CA	39A	39C	33.3	37.1	41	1	53.9	28.2	1
SM15T43A	SM15T43CA	43A	43C	36.8	40.9	45.2	1	59.3	25.6	1
SM15T47A	SM15T47CA	47A	47C	40.2	44.7	49.4	1	64.8	23.5	1
SM15T51A	SM15T51CA	51A	51C	43.6	48.5	53.6	1	70.1	21.7	1
SM15T56A	SM15T56CA	56A	56C	47.8	53.2	58.8	1	77	19.7	1
SM15T62A	SM15T62CA	62A	62C	53	58.9	65.1	1	85	17.9	1
SM15T68A	SM15T68CA	68A	68C	58.1	64.6	71.4	1	92	16.5	1
SM15T75A	SM15T75CA	75A	75C	64.1	71.3	78.8	1	103	14.8	1
SM15T82A	SM15T82CA	82A	82C	70.1	77.9	86.1	1	113	13.5	1
SM15T91A	SM15T91CA	91A	91C	77.8	86.5	95.50	1	125	12.2	1
SM15T100A	SM15T100CA	100A	100C	85.5	95	105	1	137	11.1	1
SM15T110A	SM15T110CA	110A	110C	94	105	116	1	152	10	1
SM15T120A	SM15T120CA	120A	120C	102	114	126	1	165	9.2	1
SM15T130A	SM15T130CA	130A	130C	111	124	137	1	179	8.5	1
SM15T150A	SM15T150CA	150A	150C	128	143	158	1	207	7.3	1
SM15T160A	SM15T160CA	160A	160C	136	152	168	1	219	6.9	1
SM15T170A	SM15T170CA	170A	170C	145	162	179	1	234	6.5	1
SM15T180A	SM15T180CA	180A	180C	154	171	189	1	246	6.2	1
SM15T200A	SM15T200CA	200A	200C	171	190	210	1	274	5.5	1



Part Number		Marking		Reverse Stand-Off Voltage	Breakdown Voltage V_{BR} (V) @ I_T		Test Current	Maximum Clamping Voltage@ I_{PP}	Peak Pulse Current	Reverse Leakage @ V_{RWM}
Uni	Bi	Uni	Bi	V_{RWM} (V)	Min.	Max.	I_T (mA)	V_C (V)	I_{PP} (A)	I_R (μ A)
SM15T220A	SM15T220CA	220A	220C	185	209	231	1	328	4.6	1
SM15T250A	SM15T250CA	250A	250C	214	237	263	1	344	4.4	1
SM15T300A	SM15T300CA	300A	300C	256	285	315	1	414	3.7	1
SM15T350A	SM15T350CA	350A	350C	300	332	368	1	482	3.2	1
SM15T400A	SM15T400CA	400A	400C	342	380	420	1	548	2.8	1
SM15T440A	SM15T440CA	440A	440C	376	418	462	1	602	2.5	1
SM15T480A	SM15T480CA	480A	480C	408	456	504	1	658	2.3	1
SM15T510A	SM15T510CA	510A	510C	434	485	535	1	698	2.1	1
SM15T530A	SM15T530CA	530A	530C	451	503.5	556.5	1	725	2.1	1
SM15T540A	SM15T540CA	540A	540C	460	513	567	1	740	2.0	1
SM15T550A	SM15T550CA	550A	550C	468	522.5	577.5	1	760	2.0	1
SM15T600A	SM15T600CA	600A	600C	512	570	630	1	828	1.9	1

Note :
 (1) Suffix 'A' denotes 5% tolerance device.
 (2) Add suffix 'CA' after part number to specify Bi-directional devices.
 (3) For Bi-Directional devices having VR of 18 volts and less, the IR limit is double.

Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

Figure 1. Peak Pulse Power Rating Curve

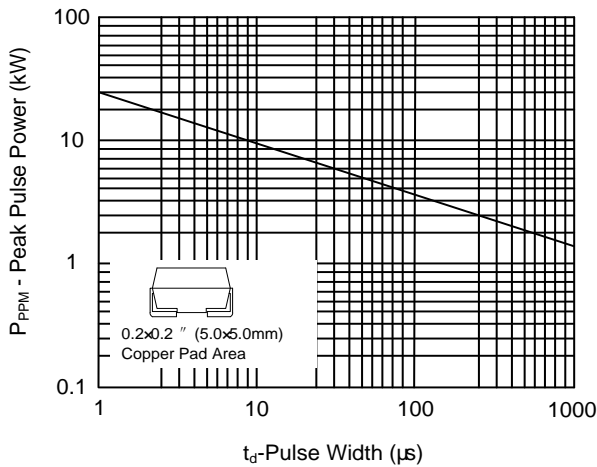


Figure 2. Pulse Derating Curve

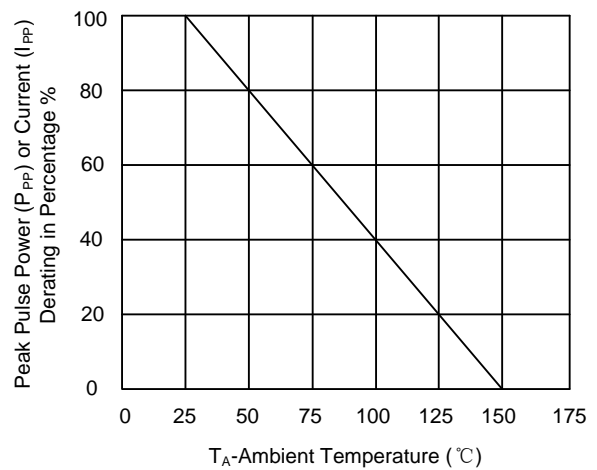




Figure 3. Pulse Waveform

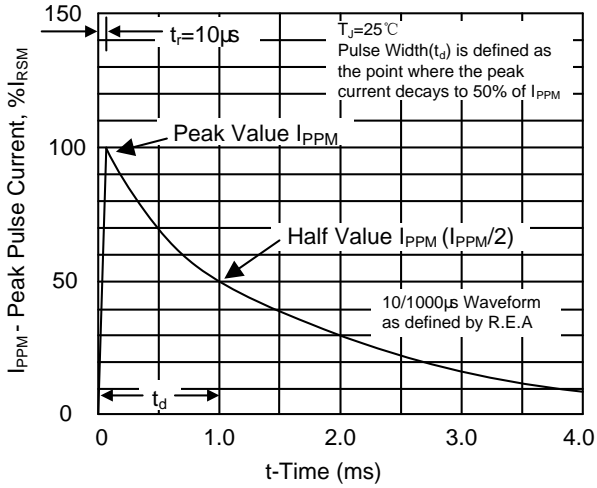


Figure 4. Typical Junction Capacitance

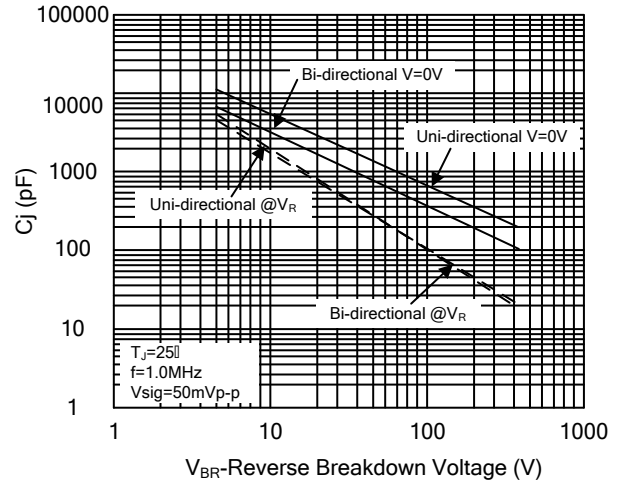


Figure 5. Steady State Power Dissipation Derating Curve

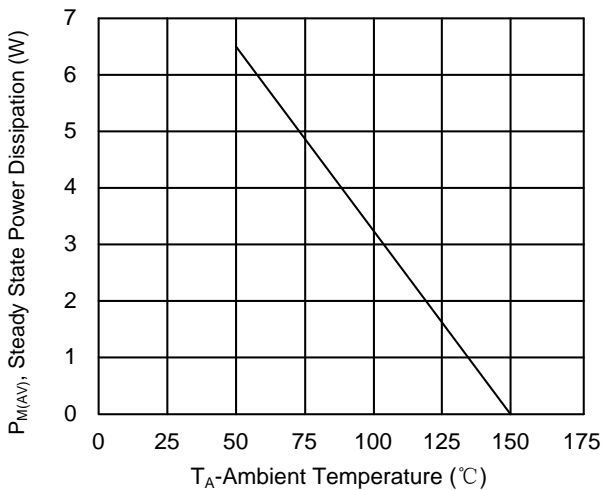
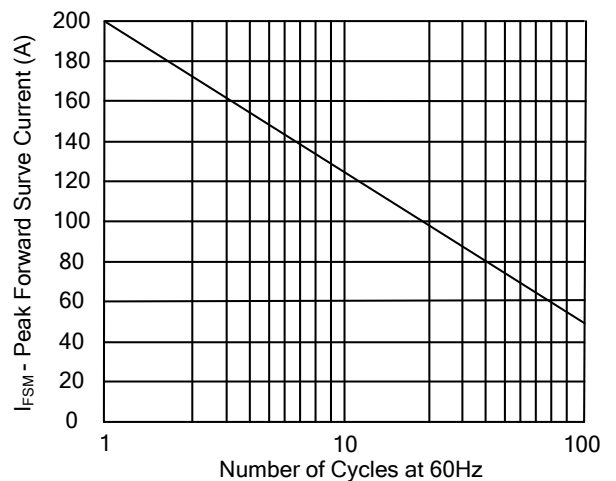
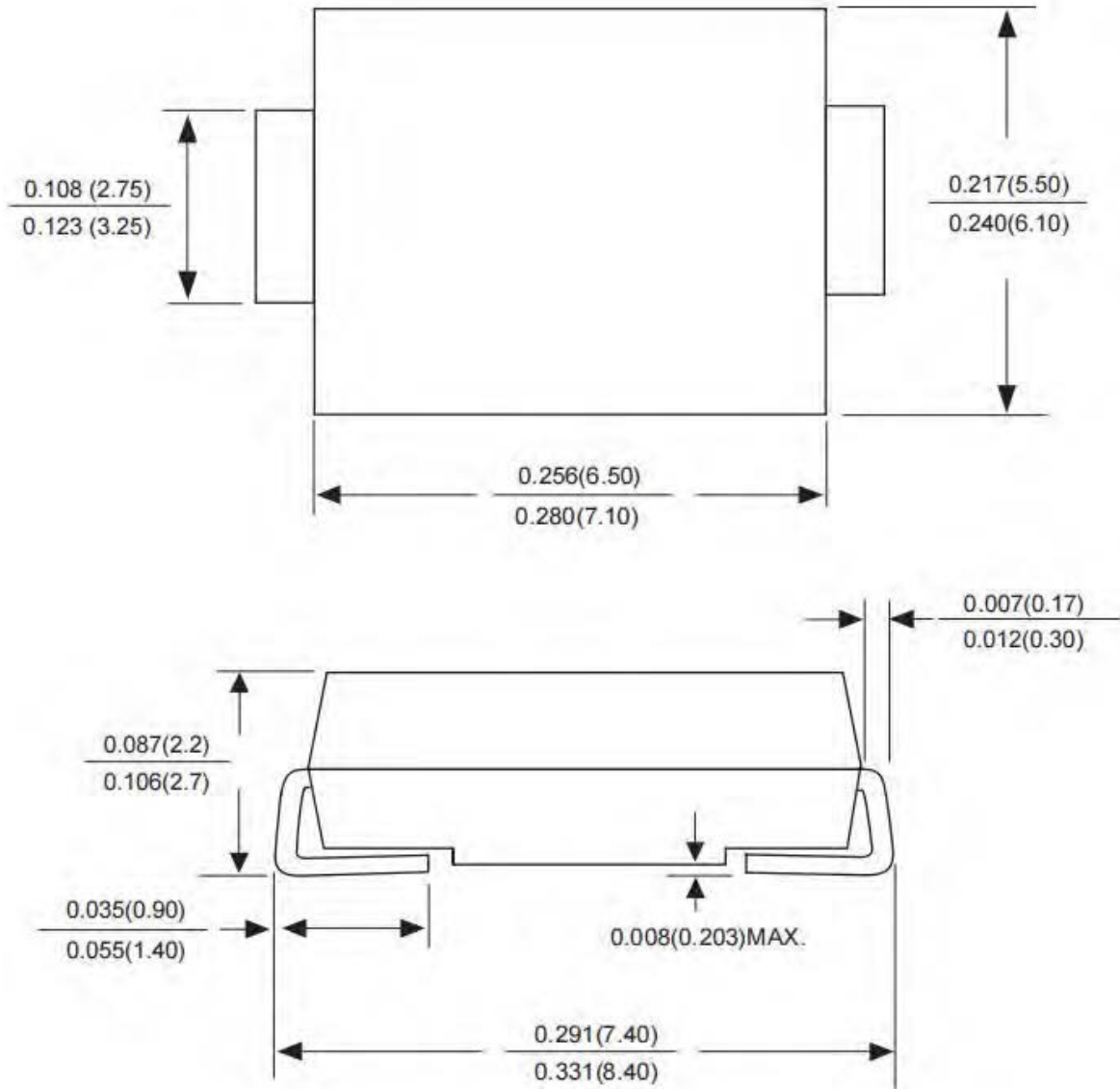


Figure 6. Maximum Non-Repetitive Forward Surge Current Uni-Directional Only





Package Outline Dimensions
SMC(DO-214AB)



Dimensions in inches and (millimeters)



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