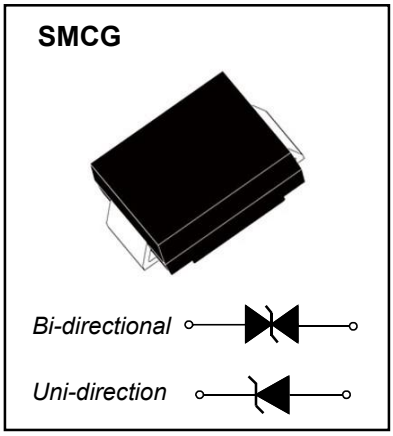
SMCG Plastic-Encapsulate Diodes

Transient Voltage Suppressor Diodes

Features

- P_{PPM} 8000W
- V_{RWM} 12V - 110V
- Low power loss, high efficiency
- Excellent clamping capability



Applications

- Protect sensitive circuit from damage by high voltage transients
- Lighting, ESD transient voltage protection of IC, system
- Inductive switching load protection of IC, system
- Electrical Fast Transient Immunity protection of IC, system

Mechical Data

- Case: JEDEC DO-214AB molded plastic
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Solder plated, solderable per MIL- STD-202, Method 208
- Polarity: Color band denotes cathode end

Maximum Ratings & Characteristics Ratings at 25℃ ambient temperature unless otherwise specified.

Parameter	Symbols	Value	Unit
Peak power dissipation with a 10/1000 us waveform(1)	P_{PP}	8000	W
Peak pulse current wih a 10/1000 us waveform(1)	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at TL = 75 °C	P_D	8.0	W
Peak forward surge current, 8.3 ms single half sinewave unidirectional only(2)	I_{FSM}	300	A
Operating junction and storage temperature range	T_J , T_{STG}	-55 to +150	℃

Note:

1)Non-repetitive current pulse per Fig.4 and derated above TA= 25 °C per Fig.3 ;

2)Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum ;

Electrical Characteristics (T_A=25℃ unless otherwise noted)

Part Number		Reverse Stand-off Voltage	Breakdown Voltage V_{BR} @ I_T		Test Current	Max. Clamping Voltage @ I_{PP}	Max. Peak Pulse Current	Max. Reverse Leakage @ V_{RWM}
UNI-POLAR	BI-POLAR	V_{RWM}(V)	Min.(V)	Max.(V)	I_T(mA)	$V_{C\ MAX.}$(V)	I_{PP}(A)	I_R(uA)
8.0SMDJ12A	8.0SMDJ12CA	12	13.3	14.7	10	19.9	402.1	800
8.0SMDJ13A	8.0SMDJ13CA	13	14.4	15.9	10	21.5	372.1	500
8.0SMDJ14A	8.0SMDJ14CA	14	15.6	17.2	10	23.2	344.9	200
8.0SMDJ15A	8.0SMDJ15CA	15	16.7	18.5	1	24.4	327.9	100
8.0SMDJ16A	8.0SMDJ16CA	16	17.8	19.7	1	26.0	307.7	50
8.0SMDJ17A	8.0SMDJ17CA	17	18.9	20.9	1	27.6	290.0	20
8.0SMDJ18A	8.0SMDJ18CA	18	20.0	22.1	1	29.2	274.0	10
8.0SMDJ20A	8.0SMDJ20CA	20	22.2	24.5	1	32.4	247.0	5
8.0SMDJ22A	8.0SMDJ22CA	22	24.4	26.9	1	35.5	225.4	5
8.0SMDJ24A	8.0SMDJ24CA	24	26.7	29.5	1	38.9	205.7	5
8.0SMDJ26A	8.0SMDJ26CA	26	28.9	31.9	1	42.1	190.1	5
8.0SMDJ28A	8.0SMDJ28CA	28	31.1	34.4	1	45.4	176.2	5
8.0SMDJ30A	8.0SMDJ30CA	30	33.3	36.8	1	48.4	165.3	5
8.0SMDJ33A	8.0SMDJ33CA	33	36.7	40.6	1	53.3	150.1	5
8.0SMDJ36A	8.0SMDJ36CA	36	40.0	44.2	1	58.1	137.8	5
8.0SMDJ40A	8.0SMDJ40CA	40	44.4	49.1	1	64.5	124.1	5
8.0SMDJ43A	8.0SMDJ43CA	43	47.8	52.8	1	69.4	115.3	5
8.0SMDJ45A	8.0SMDJ45CA	45	50.0	55.3	1	72.7	110.1	5
8.0SMDJ48A	8.0SMDJ48CA	48	53.3	58.9	1	77.4	103.4	5
8.0SMDJ51A	8.0SMDJ51CA	51	56.7	62.7	1	82.4	97.1	5
8.0SMDJ54A	8.0SMDJ54CA	54	60.0	66.3	1	87.1	92.0	5
8.0SMDJ58A	8.0SMDJ58CA	58	64.4	71.2	1	93.6	85.5	5
8.0SMDJ60A	8.0SMDJ60CA	60	66.7	73.7	1	96.8	82.7	5
8.0SMDJ64A	8.0SMDJ64CA	64	71.1	78.6	1	103.0	77.7	5
8.0SMDJ70A	8.0SMDJ70CA	70	77.8	86.0	1	113.0	71.0	5
8.0SMDJ75A	8.0SMDJ75CA	75	83.3	92.1	1	121.0	66.2	5
8.0SMDJ78A	8.0SMDJ78CA	78	86.7	95.8	1	126.0	63.5	5
8.0SMDJ85A	8.0SMDJ85CA	85	94.4	104.0	1	137.0	58.4	5
8.0SMDJ90A	8.0SMDJ90CA	90	100.0	111.0	1	146.0	55.0	5
8.0SMDJ100A	8.0SMDJ100CA	100	111	123	1	162	49.4	5
8.0SMDJ110A	8.0SMDJ110CA	110	122	135	1	177	45.2	5

Typical Characteristics

Figure 1 - TVS Transients Clamping Waveform

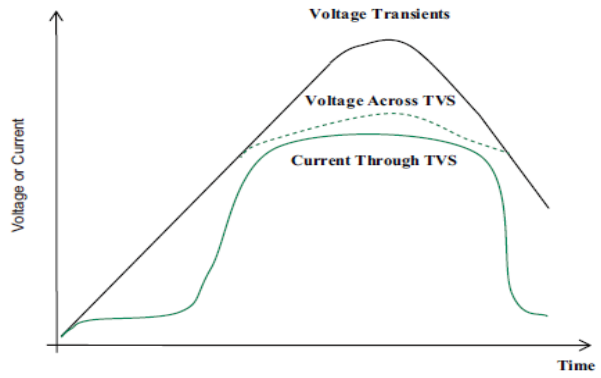


Figure 2 - Peak Pulse Power Rating

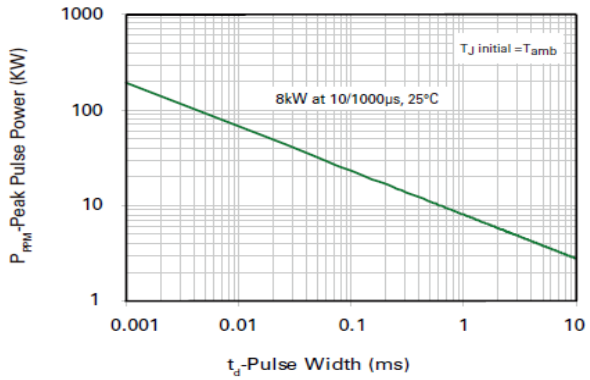


Figure 3 - Peak Pulse Power Derating Curve

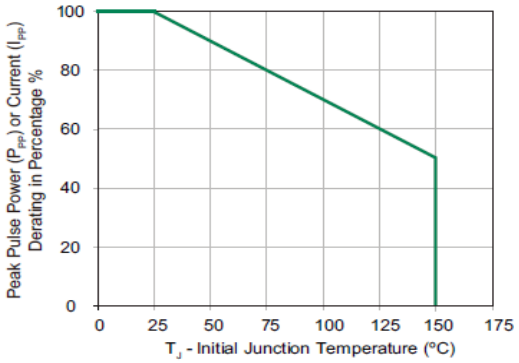


Figure 4 - Pulse Waveform

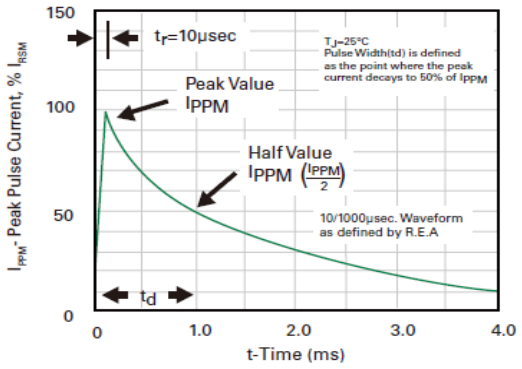


Figure 5 - Typical Junction Capacitance

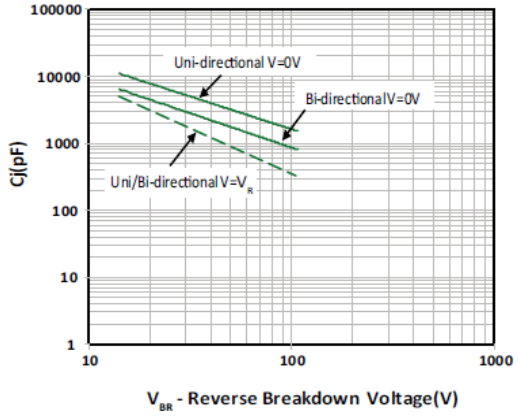


Figure 6 - Typical Transient Thermal Impedance

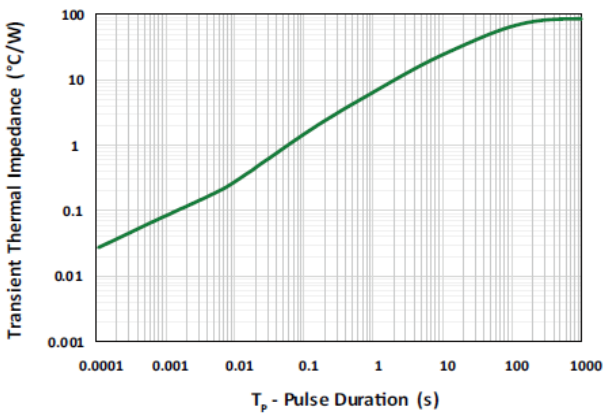


Figure 7 - Maximum Non-Repetitive Peak Forward Surge Current Uni-Directional Only

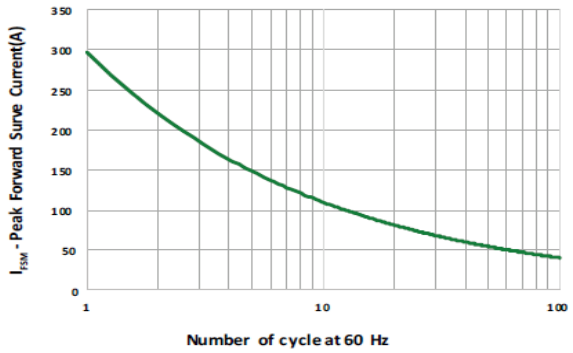
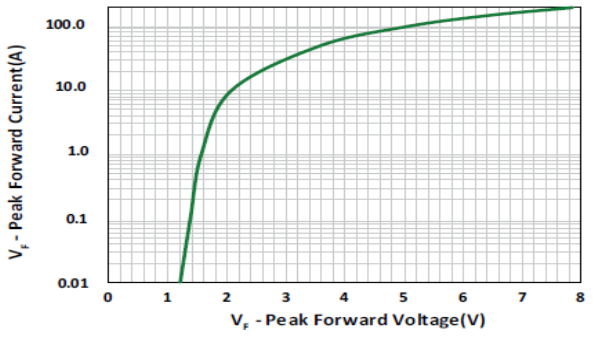
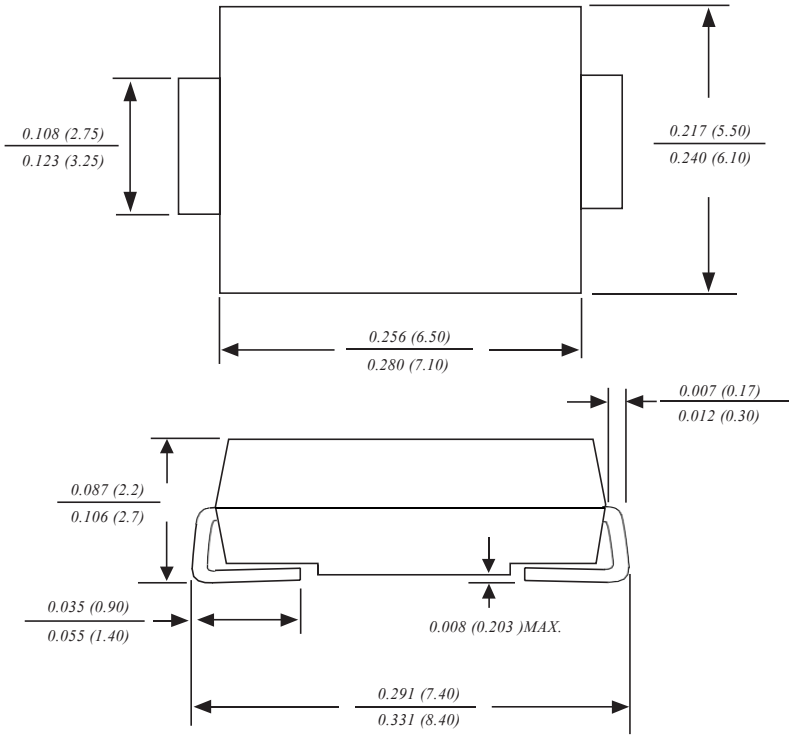


Figure 8 - Peak Forward Voltage Drop vs Peak Forward Current (Typical Values)

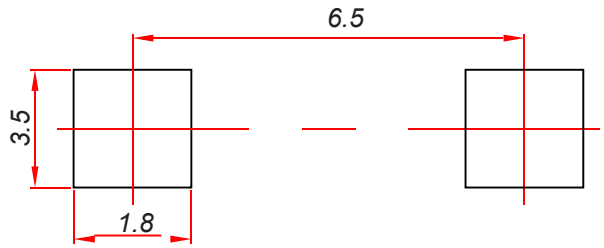


SMCG Package Outline Dimensions



Dimensions in inches and (millimeters)

SMCG Suggested Pad Layout



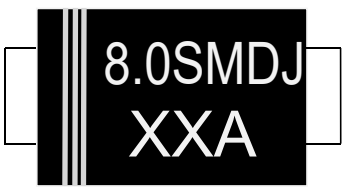
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.

Ordering Information

Part Number	Package	Shipping Quantity
8.0SMDJ12(C)A-8.0SMDJ110(C)A	SMCG	3000/tape&Reel

Marking Diagram

Uni-direction



XX:From 12 To 110

Bi-directional

Reel Taping Specifications For Surface Mount Devices-SMCG

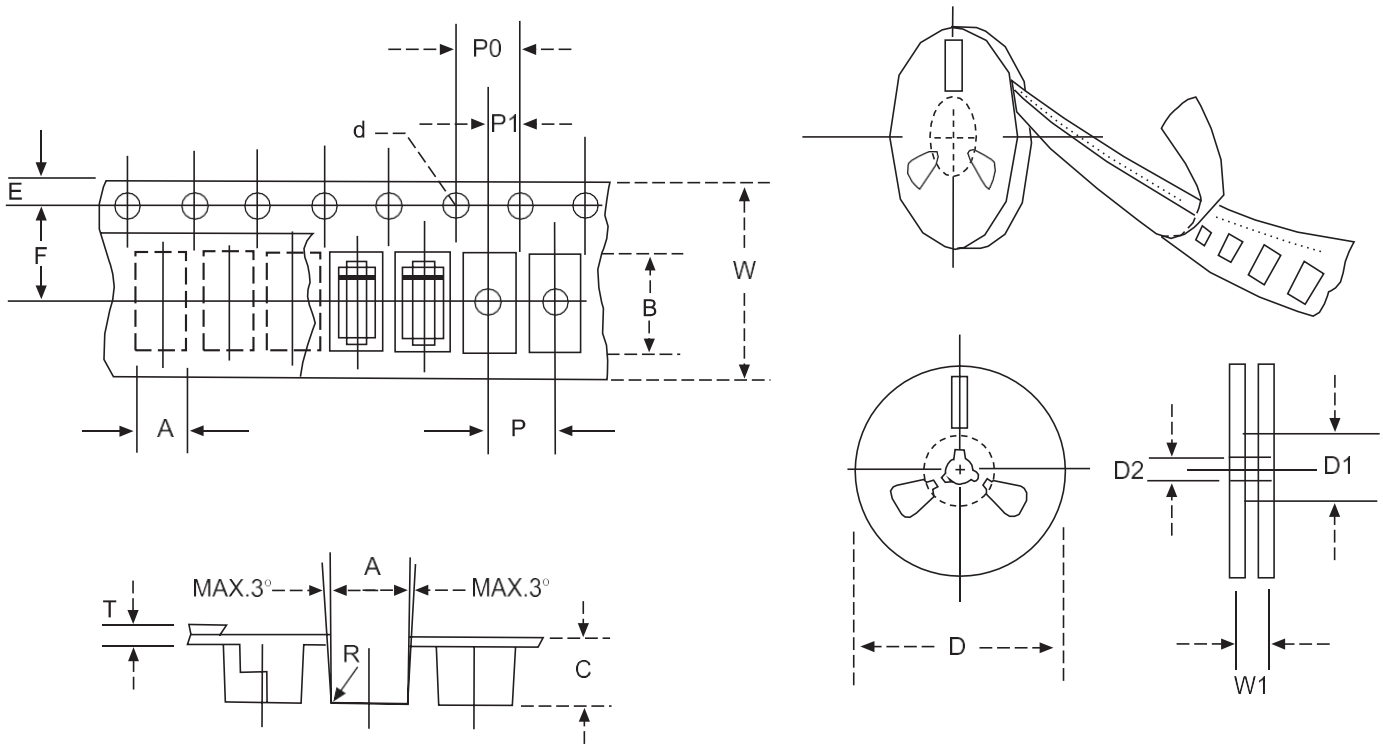


FIG: CONFIGURATION OF SURFACE MOUNTED DEVICESTAPING

ITEM	SYMBOL	SMCG mm(inch)
Carrier width	A	6.05±0.1(0.238±0.004)
Carrier length	B	8.31±0.1(0.327±0.004)
Carrier depth	C	2.70±0.1(0.106±0.004)
Sprocket hole	d	1.55±0.05(0.061±0.002)
Reel outside diameter	D	330±2.0(13±0.079)
Reel inner diameter	D1	75 ±1.0 (2.95 ±0.039)
Feed hole diameter	D2	13±0.5(0.512±0.020)
Stroket hole position	E	1.75±0.1(0.069±0.004)
Punch hole position	F	7.65±0.05(0.301±0.002)
Punch hole pitch	P	8.0±0.1(0.315±0.004)
Sprocket hole pitch	P0	4.0±0.1(0.157±0.004)
Embossment center	P1	2.0±0.1(0.079±0.004)
Totall tape thickness	T	0.3±0.1(0.012±0.004)
Tape width	W	16.0±0.2(0.630±0.008)
Reel width	W1	24.0±2.0(0.945±0.079)

NOTE:Devices are packde in accordance with EIA standard RS-481-A and specification given above.