

Features

- 600 watts peak pulse power (10/1000 μ s)
- Unidirectional and bidirectional protection
- Fast response time : typically < 1ns
- Excellent clamping capability
- Built-in strain relief
- Low inductance
- Low profile package
- High temperature solder:260°C/10 seconds at terminal
- AEC-Q101 compliant

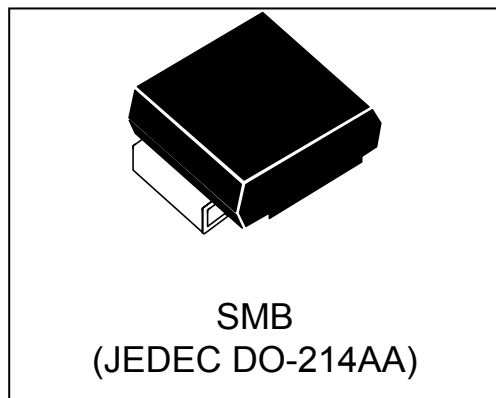
Mechanical Characteristics

- JEDEC DO-214AA package
- Molding compound flammability rating: UL 94V-0
- Marking : marking code
- Packaging : tape and reel per EIA 481
- RoHS compliant

Applications

- Auto power system
- Car audio and video
- Automotive instrument
- Car GPS
- Can-bus

Pin Configuration



Absolute Maximum Ratings (Ta=25°C)

Rating	Symbol	Value	Units
Peak Pulse Power (tp =10/1000µs) (see Note1&2)	P _{PPM}	600	Watts
Peak pulse current (10/1000µs) (see Note2)	I _{PPM}	See Electrical Characteristics	A
Power Dissipation on infinite heat sink T _L = 50 °C (Fig4)	P _D	5.0	W
Operating Junction Temperature range	T _J	-65 to + 150	°C
Storage Temperature range	T _{STG}	-65 to + 150	°C

Note1: Peak Pulse Power Rating as Pulse Width ,per Fig1.

Note2: Peak Pulse Power or Current Derated above T_A=25°C Per Fig. 2 and Non-Repetitive Current Pulse, Per Fig.3

Electrical Characteristics

Part Number		Marking		Reverse Stand off Voltage V _{RWM} (Volts)	Breakdown Voltage V _{BR@IT} (Volts)		Test Current I _T (mA)	Maximum Clamping Voltage V _{c@IPP} (Volts)	Maximum Peak Pulse Current I _{pp} (Amps)	Maximum Reverse Leakage I _{R@VRWM} (µA)
UNI-POLAR	BI-POLAR	UNI-POLAR	BI-POLAR		MIN	MAX				
SMBJ15CAQ	SMBJ15AQ	BYLP	BZLP	15	16.70	18.50	1	24.4	24.6	1
SMBJ16CAQ	SMBJ16AQ	BYLQ	BZLQ	16	17.80	19.70	1	26.0	23.1	1
SMBJ18CAQ	SMBJ18AQ	BYLS	BZLS	18	20.00	22.10	1	29.2	20.5	1
SMBJ20CAQ	SMBJ20AQ	BYMY	BZMZ	20	22.20	24.50	1	32.4	18.5	1
SMBJ22CAQ	SMBJ22AQ	BYMM	BZMM	22	24.40	26.90	1	35.5	16.9	1
SMBJ24CAQ	SMBJ24AQ	BYMO	BZMO	24	26.70	29.50	1	38.9	15.4	1
SMBJ26CAQ	SMBJ26AQ	BYMQ	BZMQ	26	28.90	31.90	1	42.1	14.3	1
SMBJ28CAQ	SMBJ28AQ	BYMS	BZMS	28	31.10	34.40	1	45.4	13.2	1
SMBJ30CAQ	SMBJ30AQ	BYNY	BZNZ	30	33.30	36.80	1	48.4	12.4	1
SMBJ33CAQ	SMBJ33AQ	BYNN	BZNN	33	36.70	40.60	1	53.3	11.3	1
SMBJ36CAQ	SMBJ36AQ	BYNQ	BZNQ	36	40.00	44.20	1	58.1	10.3	1
SMBJ40CAQ	SMBJ40AQ	BYOY	BZOZ	40	44.40	49.10	1	64.5	9.3	1
SMBJ43CAQ	SMBJ43AQ	BYON	BZON	43	47.80	52.80	1	69.4	8.6	1
SMBJ45CAQ	SMBJ45AQ	BYOP	BZOP	45	50.00	55.30	1	72.7	8.3	1
SMBJ48CAQ	SMBJ48AQ	BYOS	BZOS	48	53.30	58.90	1	77.4	7.8	1

Typical Characteristics

Figure 1: Peak Pulse Power Rating Curve

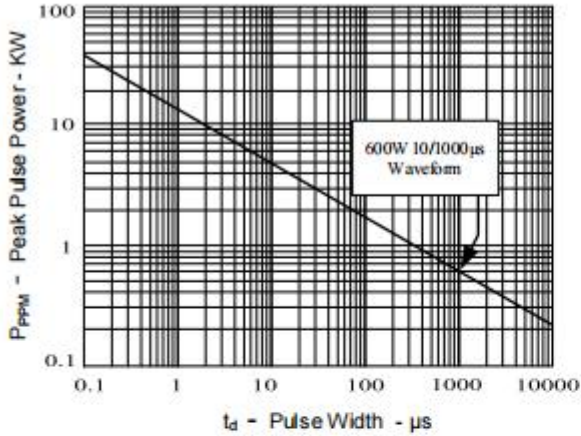


Figure 2: Pulse Derating Curve

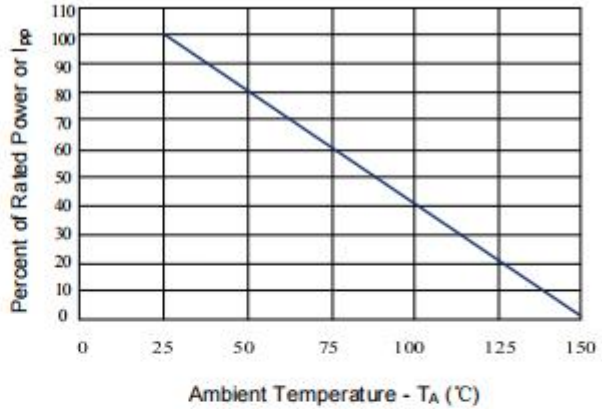


Figure 3: Pulse Waveform

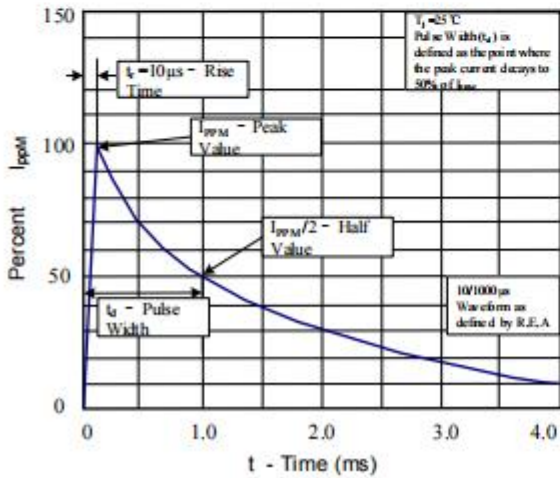
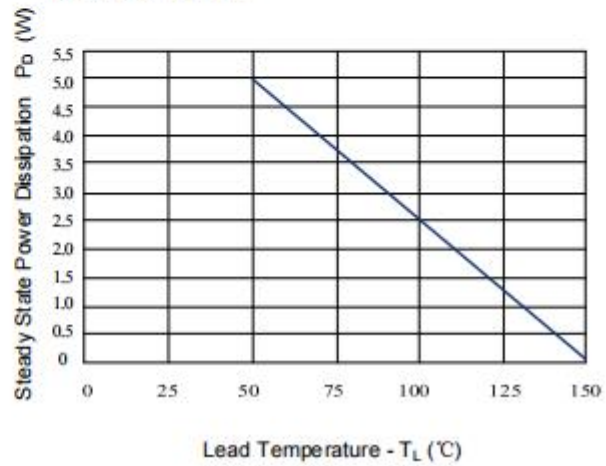
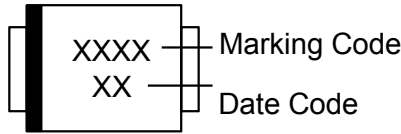


Figure 4: Steady State Power Dissipation Derating Curve



Marking code

Cathode Band
(For uni-directional products only)

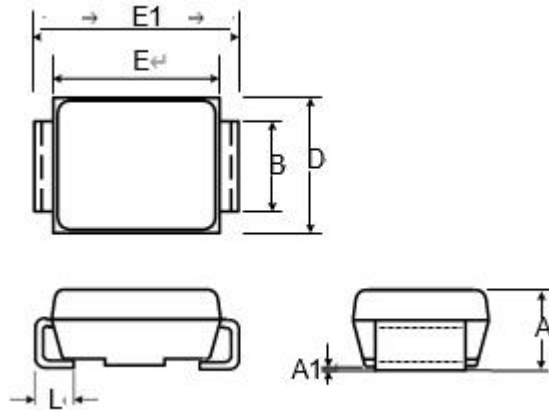


Package Information

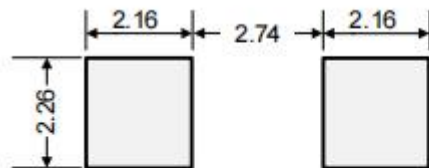
Package Type	Description	Quantity (pcs)	Standard
SMB(DO-214AA)	Tape & Reel -12mm/13" tape	3000	EIA-481-D

Outline Drawing –SMB(DO-214AA)

Ref. (mm)	Millimeters	
	Min.	Max.
A	2.130	2.600
A1	-	0.300
B	1.900	2.200
E	4.100	4.750
E1	5.210	5.590
D	3.300	3.940
L	0.760	1.520



Recommended Solder Pad Layout



Dimensions in mm