

Features

- Peak power dissipation 400W@10 x 1000 us Pulse
- Low incremental surge resistance
- Excellent clamping capability
- Glass passivated junction
- Fast response time
- Typical IR less than 1uA above 10V
- Halogen free and RoHS compliant



SMA top view



Bi-directional



Uni-direction

Mechanical Data

- CASE: SMAJ(DO-214AC) Molded Plastic
- Polarity: By cathode band denotes uni-directional device, none cathode band denotes bi-directional device
- Mounting Position: Any


Halogen-Free

Maximum Ratings ($T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
P_{PPM}	Peak Pulse Power Dissipation on 10/1000 us Waveform (Note1,2,FIG.1)	Min400	W
P_D	Power Dissipation on Infinite Heat Sink at $T_L=50^\circ\text{C}$	3.3	W
I_{PPM}	Peak Pulse Current of on 10/1000 us Waveform (Note1,FIG.3)	SeeTable1	A
I_{FSM}	Peak Forward Surge Current, 8.3ms Single Half Sine-Wave (Note2.3)	40	A
T_J	Operating Junction Temperature Range	-55~+150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~+150	$^\circ\text{C}$

Notes:

1. Non-repetitive current pulse, per Fig.3 and derated above $T_A=25^\circ\text{C}$ per Fig.2.
2. Mounted on 5.0x5.0mm² (0.03mm thick) Copper Pads to each terminal.
3. Measured on 8.3ms single half sine-wave, or equivalent square wave, for Unidirectional device only.



T_a=25°C unless otherwise specified

Typ Number	Device Marking Code		Breakdown Voltage V _{BR} @ I _T ⁽¹⁾ V		Test Current I _T (mA)	Stand-Off Voltage V _{MW} (V)	Maximum Reverse Leakage @ V _{WM} I _D ⁽⁴⁾ (μA)	Maximum Peak Pulse Current I _{PPM} ⁽²⁾ (A)	Maximum Clamping Voltage @ I _{PPM} V _C (V)	Maximum Temperature Coefficient OF V _{BR} %/°C
	Uni	Bi	MIN	MAX						
P4SMA6.8A	6V8A	6V8C	6.45	7.14	10	5.80	1000	38.1	10.5	0.057
P4SMA7.5A	7V5A	7V5C	7.13	7.88	10	6.40	500	35.4	11.3	0.061
P4SMA8.2A	8V2A	8V2C	7.79	8.61	10	7.02	200	33.1	12.1	0.065
P4SMA9.1A	9V1A	9V1C	8.65	9.55	1	7.78	50	29.9	13.4	0.068
P4SMA10A	10A	10C	9.50	10.50	1	8.55	10	27.6	14.5	0.073
P4SMA11A	11A	11C	10.50	11.60	1	9.40	5	25.6	15.6	0.075
P4SMA12A	12A	12C	11.40	12.60	1	10.20	1	24.0	16.7	0.078
P4SMA13A	13A	13C	12.40	13.70	1	11.10	1	22.0	18.2	0.081
P4SMA15A	15A	15C	14.30	15.80	1	12.80	1	18.9	21.2	0.084
P4SMA16A	16A	16C	15.20	16.80	1	13.60	1	17.8	22.5	0.086
P4SMA18A	18A	18C	17.10	18.90	1	15.30	1	15.9	25.2	0.089
P4SMA20A	20A	20C	19.00	21.00	1	17.10	1	14.4	27.7	0.090
P4SMA22A	22A	22C	20.90	23.10	1	18.80	1	13.1	30.6	0.092
P4SMA24A	24A	24C	22.80	25.20	1	20.50	1	12.0	33.2	0.090
P4SMA27A	27A	27C	25.70	28.40	1	23.10	1	10.7	37.5	0.096
P4SMA30A	30A	30C	28.50	31.50	1	25.60	1	9.7	41.4	0.097
P4SMA33A	33A	33C	31.40	34.70	1	28.20	1	8.8	45.7	0.098
P4SMA36A	36A	36C	34.20	37.80	1	30.80	1	8.0	49.9	0.099
P4SMA39A	39A	39C	37.10	41.00	1	33.30	1	7.4	53.9	0.100
P4SMA43A	43A	43C	40.90	45.20	1	36.80	1	6.7	59.3	0.101
P4SMA47A	47A	47C	44.70	49.40	1	40.20	1	6.2	64.8	0.101
P4SMA51A	51A	51C	48.50	53.60	1	43.60	1	5.7	70.1	0.102
P4SMA56A	56A	56C	53.20	58.80	1	47.80	1	5.2	77.0	0.103
P4SMA62A	62A	62C	58.90	65.10	1	53.00	1	4.7	85.0	0.104
P4SMA68A	68A	68C	64.60	71.40	1	58.10	1	4.3	92.0	0.104
P4SMA75A	75A	75C	71.30	78.80	1	64.10	1	3.9	104.0	0.105
P4SMA82A	82A	82C	77.90	86.10	1	70.10	1	3.5	113.0	0.105
P4SMA91A	91A	91C	86.50	95.50	1	77.80	1	3.2	125.0	0.106
P4SMA100A	100A	100C	95.00	105.00	1	85.50	1	2.2	137.0	0.106
P4SMA110A	110A	110C	105.00	116.00	1	94.00	1	2.0	152.0	0.107
P4SMA120A	120A	120C	114.00	126.00	1	102.00	1	1.8	165.0	0.107
P4SMA130A	130A	130C	124.00	137.00	1	111.00	1	1.7	179.0	0.107
P4SMA150A	150A	150C	143.00	158.00	1	128.00	1	1.4	207.0	0.106
P4SMA160A	160A	160C	152.00	168.00	1	136.00	1	1.4	219.0	0.108
P4SMA170A	170A	170C	162.00	179.00	1	145.00	1	1.3	234.0	0.108
P4SMA180A	180A	180C	171.00	189.00	1	165.00	1	1.2	246.0	0.108
P4SMA200A	200A	200C	190.00	210.00	1	171.00	1	1.1	274.0	0.108
P4SMA220A	220A	220C	209.00	231.00	1	185.00	1	0.9	238.0	0.108
P4SMA250A	250A	-	237.00	263.00	1	214.00	1	0.87	344.0	0.110
P4SMA300A	300A	-	285.00	315.00	1	256.00	1	0.73	414.0	0.110
P4SMA350A	350A	-	333.00	368.00	1	300.00	1	0.62	482.0	0.110
P4SMA400A	400A	-	380.00	420.00	1	342.00	1	0.55	548.0	0.110
P4SMA440A	440A	-	418.00	462.00	1	376.00	1	0.50	602.0	0.110
P4SMA480A	480A	-	456.00	504.00	1	408.00	1	0.46	658.0	0.110
P4SMA510A	510A	-	485.00	534.00	1	434.00	1	0.43	698.0	0.110
P4SMA540A	540A	-	513.00	567.00	1	459.00	1	0.41	740.0	0.110

Notes:

1. Pulse test: tp ≤ 50 ms
2. Surge current waveform per fig. 3 and derate per fig. 2
3. All terms and symbols are consistent with ANSI/IEEE CA62.35
4. For bi-directional types with VR of 10 V and less, the ID limit is doubled
5. VF = 3.5 V at IF = 25 A (uni-directional only)



Typical Characteristics

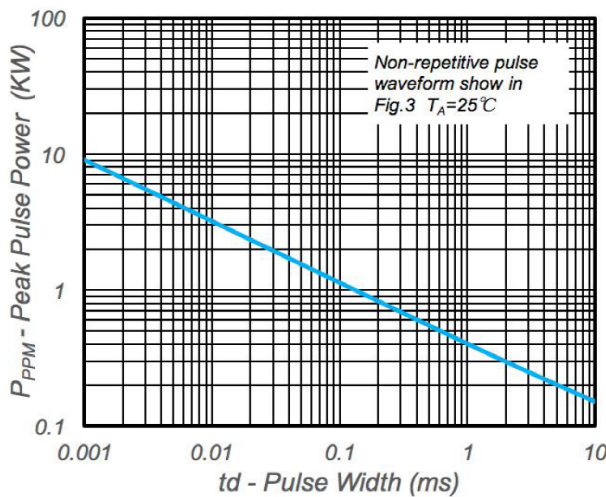


Fig.1 Peak Pulse Power Rating

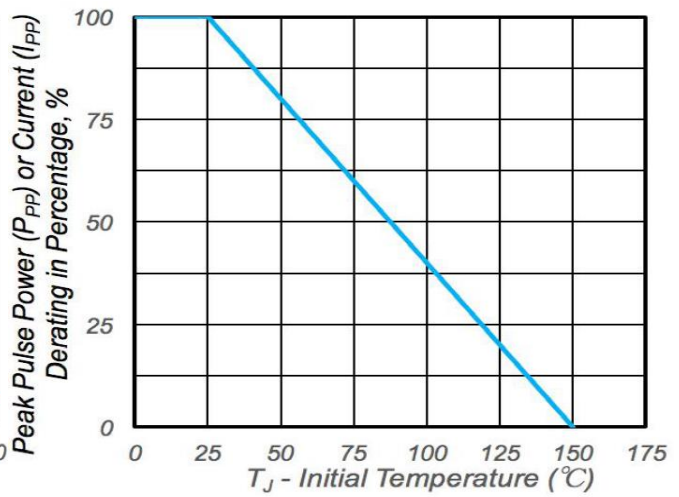


Fig.2 Pulse Derating Curve

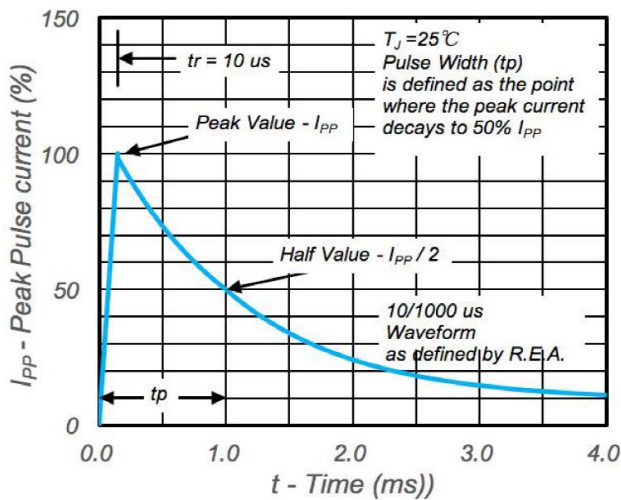


Fig.3 Pulse Waveform

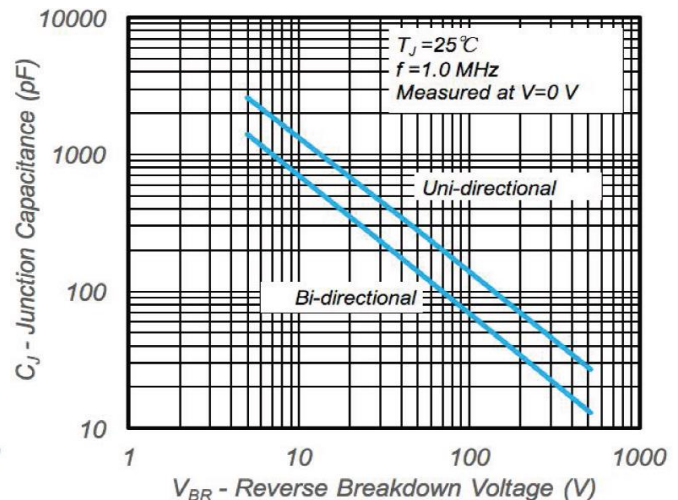
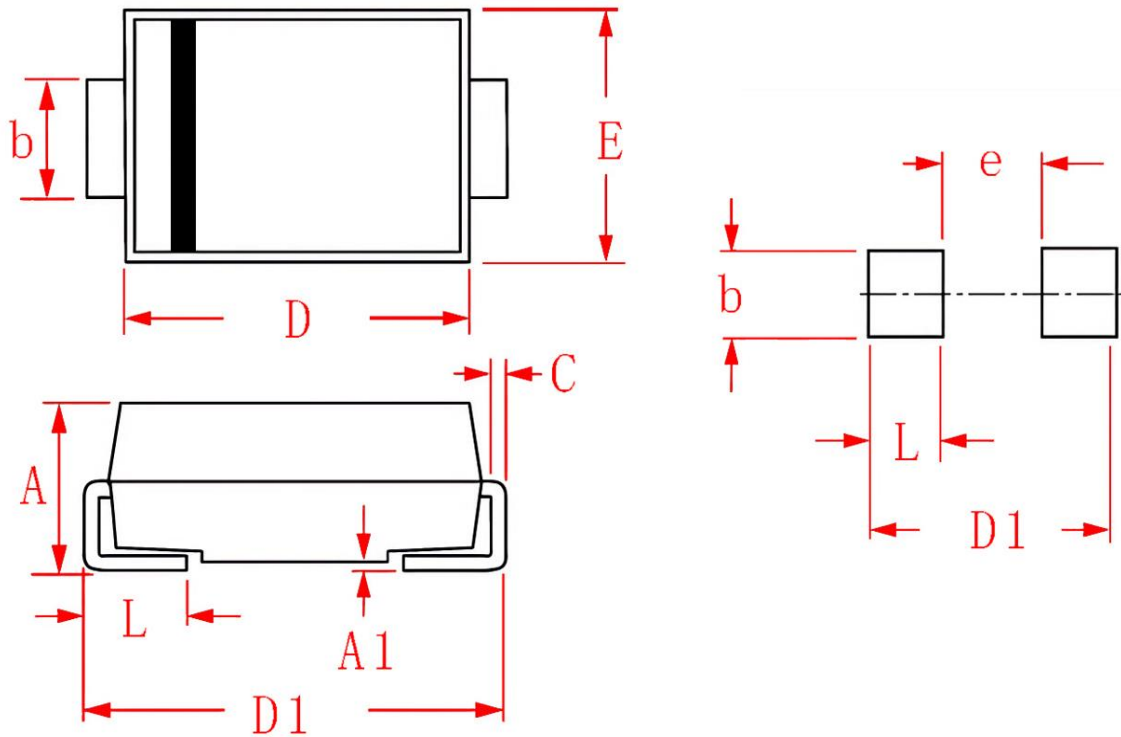


Fig.4 Typical Junction Capacitance



SMA Package information

SMA (DO-214AC)



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	1.900	2.200	0.075	0.087
A1	0.050	0.200	0.002	0.008
b	1.300	1.600	0.051	0.063
C	0.150	0.310	0.006	0.012
D	4.000	4.500	0.157	0.177
D1	4.700	5.200	0.185	0.205
E	2.300	2.700	0.090	0.106
e	-	1.880	-	0.074
L	0.900	1.500	0.035	0.059