

**SMA**



**Features**

- High forward surge capability
- Glass passivated junction
- Low Zener Impedance
- Power Dissipation of 1000mW
- High Stability and High Reliability
- Halogen free and RoHS compliant

**Mechanical Data**

- CASE: SMAJ(DO-214AC) Molded Plastic
- Polarity: Color band denotes cathode end
- Mounting position: ANY
- Weight: 0.0025 ounces, 0.071 gram

**Maximum Ratings & Electrical Characteristics**

(Ratings at 25°C ambient temperature unless otherwise specified.)

Ratings at 25°C ambient temperature unless otherwise specified.			
MDD Catalog Number	SYMBOLS	VALUE	UNITS
Peak Power Dissipation at $T_A=50^{\circ}\text{C}$ , Derate above $50^{\circ}\text{C}$ (Note 1)	$P_D$	1.0 6.67	Watts mW/ $^{\circ}\text{C}$
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) (Note 2)	$I_{FSM}$	10.0	A
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to + 150	$^{\circ}\text{C}$

Notes: 1. Mounted on  $5.0\text{mm}^2$  (0.013mm thick) land areas.

2. Measured on 8.3ms Single Half Sine-wave or Equivalent Square Wave, Duty Cycle=4 Pulses Per Minute Maximum.

**Electrical Characteristics**

(Ratings at 25°C ambient temperature unless otherwise specified).

Type	Marking	Zener Voltage Range <sup>(1)</sup>			$I_{zr}$ (mA)	Dynamic Impedance $Z_{zr}$ (at $I_{zr}$ ) Max ( $\Omega$ )	Reverse Current		Admissible Zener Current $I_{zr}$ (mA)
		$V_{zr}$ (at $I_{zr}$ )					$I_r$ Max ( $\mu\text{A}$ )	at $V_R$ (V)	
		Min (V)	Nom (V)	Max (V)					
1SMA4728A	728A	3.10	3.3	3.50	75	10	100	1	285
1SMA4729A	729A	3.40	3.6	3.80	69	10	100	1	263
1SMA4730A	730A	3.70	3.9	4.10	64	9.0	50	1	243
1SMA4731A	731A	4.06	4.3	4.56	58	9.0	25	1	219
1SMA4732A	732A	4.50	4.7	4.93	53	8.0	10	1	203
1SMA4733A	733A	4.84	5.1	5.36	49	7.0	10	1	186
1SMA4734A	734A	5.32	5.6	5.92	45	5.0	10	2	170
1SMA4735A	735A	5.86	6.2	6.51	41	2.0	10	3	154
1SMA4736A	736A	6.46	6.8	7.18	37	3.5	10	4	140
1SMA4737A	737A	7.12	7.5	7.88	34	4.0	10	5	127
1SMA4738A	738A	7.79	8.2	8.67	31	4.5	10	6	116
1SMA4739A	739A	8.60	9.1	9.59	28	5.0	10	7	104
1SMA4740A	740A	9.50	10	10.5	25	7.0	10	7	95
1SMA4741A	741A	10.4	11	11.6	23	8.0	5	8	86
1SMA4742A	742A	11.4	12	12.6	21	9.0	5	9	79
1SMA4743A	743A	12.4	13	14.1	19	10	5	10	71
1SMA4744A	744A	13.8	15	15.8	17	14	5	11	63

Type	Marking	Zener Voltage Range <sup>(1)</sup>			$I_{ZT}$	Dynamic Impedance	Reverse Current		Admissible Zener Current	
		$V_{ZT}$ (at $I_{ZT}$ )					$Z_{ZT}$ (at $I_{ZT}$ )	$I_R$		at $V_R$
		Min (V)	Nom (V)	Max (V)						
1SMA4745A	745A	15.2	16	17.1	16	16	5	12	58	
1SMA4746A	746A	16.8	18	19.2	14	20	5	13	52	
1SMA4747A	747A	19.0	20	21.2	13	22	5	15	47	
1SMA4748A	748A	20.8	22	23.3	12	23	5	17	43	
1SMA4749A	749A	22.8	24	26.0	11	25	5	18	38	
1SMA4750A	750A	25.3	27	28.9	9.5	35	5	21	35	
1SMA4751A	751A	28.2	30	32.0	8.5	40	5	23	31	
1SMA4752A	752A	31.3	33	34.9	7.5	45	5	25	28	
1SMA4753A	753A	34.2	36	37.9	7.0	50	5	27	26	
1SMA4754A	754A	37.2	39	41.5	6.5	60	5	30	24	
1SMA4755A	755A	40.9	43	45.6	6.0	70	1	32	22	
1SMA4756A	756A	44.9	47	49.8	5.5	80	1	35	20	
1SMA4757A	757A	48.6	51	54.0	5.0	95	1	38	18	
1SMA4758A	758A	53.6	56	58.8	4.5	110	1	42	17	
1SMA4759A	759A	58.9	62	65.6	4.0	125	1	47	15	
1SMA4760A	760A	64.6	68	71.7	3.7	150	1	52	14	
1SMA4761A	761A	71.2	75	78.8	3.3	175	1	56	12	
1SMA4762A	762A	77.9	82	87.0	3.0	200	1	62	11	
1SMA4763A	763A	86.0	91	96.0	2.8	250	1	69	10	
1SMA4764A	764A	95.0	100	105	2.5	350	1	76	9.5	
1SMA4765A	765A	104	110	116	2.3	450	1	84	8.6	
1SMA4766A	766A	114	120	127	2.0	550	1	91	7.8	
1SMA4767A	767A	125	135	142	1.9	700	1	100	7.0	
1SMA4768A	768A	140	150	157	1.7	900	1	110	6.3	
1SMA4769A	769A	155	165	172	1.6	1100	1	120	5.8	
1SMA4770A	770A	170	180	191	1.4	1200	1	135	5.2	
1SMA4771A	771A	189	200	211	1.2	1400	1	150	4.7	
1SMA4772A	772A	209	220	231	1.0	1600	1	165	4.3	
1SMA4773A	773A	229	240	251	1.0	1800	1	180	3.9	
1SMA4774A	774A	249	260	271	1.0	2000	1	190	3.7	
1SMA4775A	775A	269	280	291	1.0	2100	1	205	3.4	
1SMA4776A	776A	289	300	315	1.0	2300	1	230	3.1	
1SMA4777A	777A	313	330	346	1.0	2500	1	250	2.8	

(1)  $V_{ZT}$  is tested with pulses (20 ms)

## Ratings and Characteristic Curves

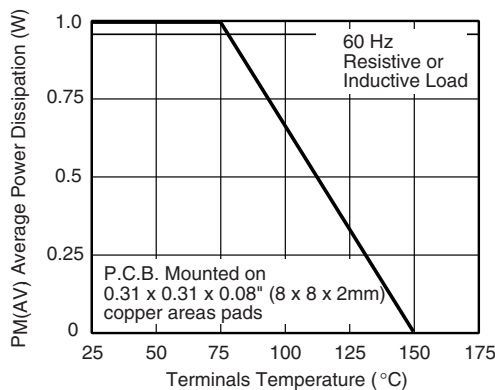


Fig. 1 - Maximum Continuous Power Dissipation

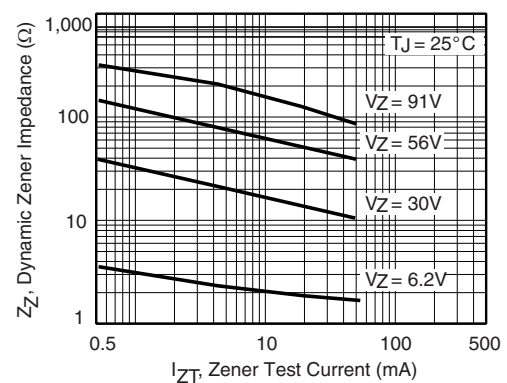


Fig. 2 - Typical Zener Impedance

## Ratings and Characteristic Curves

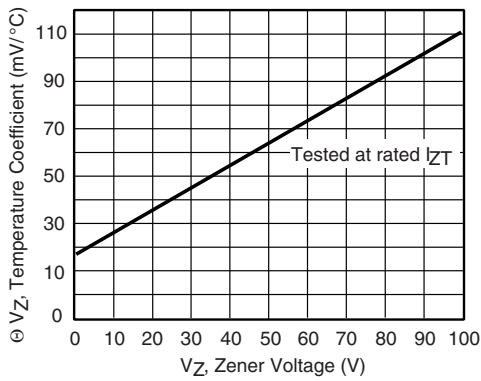


Fig. 3 - Typical Temperature Coefficients

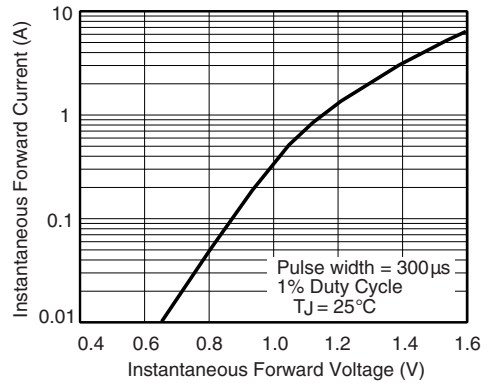


Fig. 4 - Typical Instantaneous Forward Characteristics for 1SMA4763A

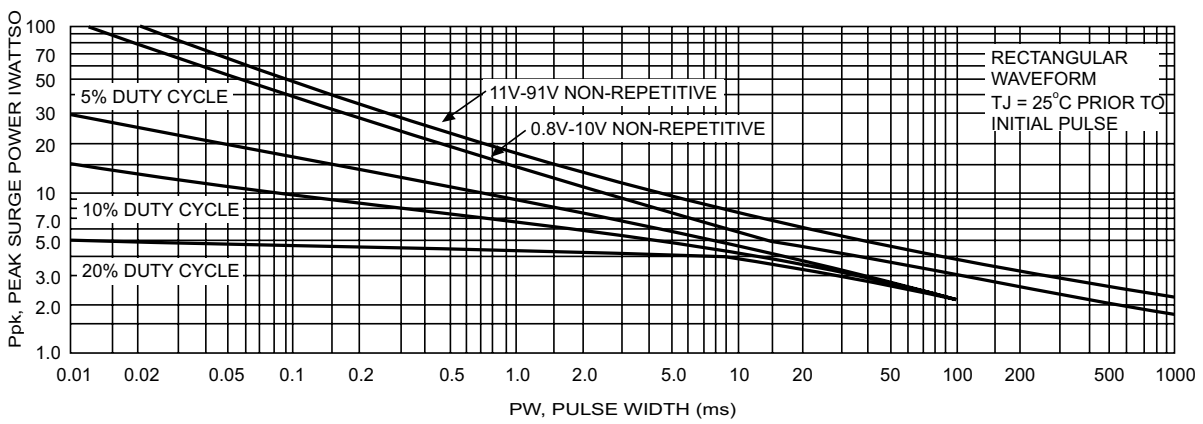


Fig. 5 - Maximum Surge Power

## Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SMA	Tape/Reel, 7" reel	2000	EIA-481-1

## Package Outline Dimensions: SMA(DO-214AC)

Dim	Millimeters		Inches	
	Min	Max	Min	Max
L	4.1	4.3	0.161	0.169
D	2.5	2.7	0.098	0.106
D1	1.3	1.5	0.051	0.059
T	4.8	5.2	0.189	0.205
T1	0.9	1.5	0.035	0.060
d	-	0.2	-	0.008
H	2.05	2.35	0.081	0.093
H1	2.0	2.2	0.079	0.087

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