



V_Z : 3.3 - 240 Volts

P_D : 1.5 Watts

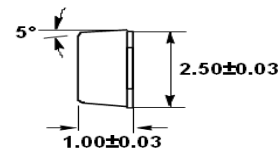
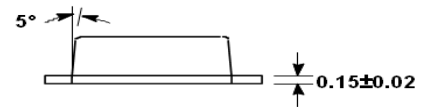
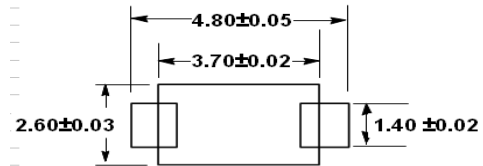
Features

- ✧ Complete Voltage Range 3.3 to 240 Volts
- ✧ High peak reverse power dissipation
- ✧ High reliability
- ✧ Low leakage current

Mechanical Data

- ✧ Case : SMA (DO-214AC) Molded plastic
- ✧ Epoxy : UL94V-O rate flame retardant
- ✧ Lead : Lead formed for Surface mount
- ✧ Polarity : Color band denotes cathode end
- ✧ Mounting position : Any
- ✧ Weight : 0.093 gram

SMAF



Dimensions in millimeters

MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified

Rating	Symbol	Value	Unit
DC Power Dissipation at T _L = 75 °C (Note1)	P _D	1.5	Watts
Maximum Forward Voltage at I _F = 200 mA	V _F	1.5	Volts
Junction Temperature Range	T _J	- 55 to + 150	°C
Storage Temperature Range	T _s	- 55 to + 150	°C

Note :

(1) T_L = Lead temperature at 5.0 mm² (0.013 mm thick) copper land areas.



ELECTRICAL CHARACTERISTICS

Rating at = 25 °C ambient temperature unless otherwise specified

TYPE	Nominal Zener Voltage		Maximum Zener Impedance			Maximum Reverse Leakage Current		Maximum DC Zener Current
	V _Z @ I _{ZT}	I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}	I _{ZK}	I _R @ V _R		I _{ZM}
	(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	(mA)
SMAFL5913	3.3	113.6	10	500	1.0	100	1.0	454
SMAFL5914	3.6	104.2	9.0	500	1.0	75	1.0	416
SMAFL5915	3.9	96.1	7.5	500	1.0	25	1.0	384
SMAFL5916	4.3	87.2	6.0	500	1.0	5.0	1.0	348
SMAFL5917	4.7	79.8	5.0	500	1.0	5.0	1.5	319
SMAFL5918	5.1	73.5	4.0	500	1.0	5.0	2.0	294
SMAFL5919	5.6	66.9	2.0	250	1.0	5.0	3.0	267
SMAFL5920	6.2	60.5	2.0	200	1.0	5.0	4.0	241
SMAFL5921	6.8	55.1	2.5	200	1.0	5.0	5.2	220
SMAFL5922	7.5	50.0	3.0	400	0.5	5.0	6.0	200
SMAFL5923	8.2	45.7	3.5	400	0.5	5.0	6.5	182
SMAFL5924	9.1	41.2	4.0	500	0.5	5.0	7.0	164
SMAFL5925	10	37.5	4.5	500	0.25	5.0	8.0	150
SMAFL5926	11	34.1	5.5	550	0.25	5.0	8.4	136
SMAFL5927	12	31.2	6.5	550	0.25	1.0	9.1	125
SMAFL5928	13	28.8	7.0	550	0.25	1.0	9.9	115
SMAFL5929	15	25.0	9.0	600	0.25	1.0	11.4	100
SMAFL5930	16	23.4	10	600	0.25	1.0	12.2	93
SMAFL5931	18	20.8	12	650	0.25	1.0	13.7	83
SMAFL5932	20	18.7	14	650	0.25	1.0	15.2	75
SMAFL5933	22	17.0	17.5	650	0.25	1.0	16.7	68
SMAFL5934	24	15.6	19	700	0.25	1.0	18.2	62
SMAFL5935	27	13.9	23	700	0.25	1.0	20.6	55
SMAFL5936	30	12.5	26	750	0.25	1.0	22.8	50
SMAFL5937	33	11.4	33	800	0.25	1.0	25.1	45
SMAFL5938	36	10.4	38	850	0.25	1.0	27.4	41
SMAFL5939	39	9.6	45	900	0.25	1.0	29.7	38
SMAFL5940	43	8.7	53	950	0.25	1.0	32.7	34
SMAFL5941	47	8.0	67	1000	0.25	1.0	35.8	31
SMAFL5942	51	7.3	70	1100	0.25	1.0	38.8	29
SMAFL5943	56	6.7	86	1300	0.25	1.0	42.6	26
SMAFL5944	62	6.0	100	1500	0.25	1.0	47.1	24
SMAFL5945	68	5.5	120	1700	0.25	1.0	51.7	22
SMAFL5946	75	5.0	140	2000	0.25	1.0	56.0	20
SMAFL5947	82	4.6	160	2500	0.25	1.0	62.2	18
SMAFL5948	91	4.1	200	3000	0.25	1.0	69.2	16
SMAFL5949	100	3.7	250	3100	0.25	1.0	76.0	15
SMAFL5950	110	3.4	300	4000	0.25	1.0	83.6	13
SMAFL5951	120	3.1	380	4500	0.25	1.0	91.2	12
SMAFL5952	130	2.9	450	5000	0.25	1.0	98.8	11
SMAFL5953	150	2.5	600	6000	0.25	1.0	114.0	10
SMAFL5954	160	2.3	700	6500	0.25	1.0	121.6	9.0
SMAFL5955	180	2.1	900	7000	0.25	1.0	136.8	8.0
SMAFL5956	200	1.9	1200	8000	0.25	1.0	152.0	7.0
SMAFL5957	240	1.5	1600	9000	0.25	1.0	182.4	6.0

Note :

(1) VZ Voltage and tolerance regulation designation: VZ ± 5%.



RATING AND TYPICAL CHARACTERISTIC CURVES ($T_A = 25^\circ\text{C}$)

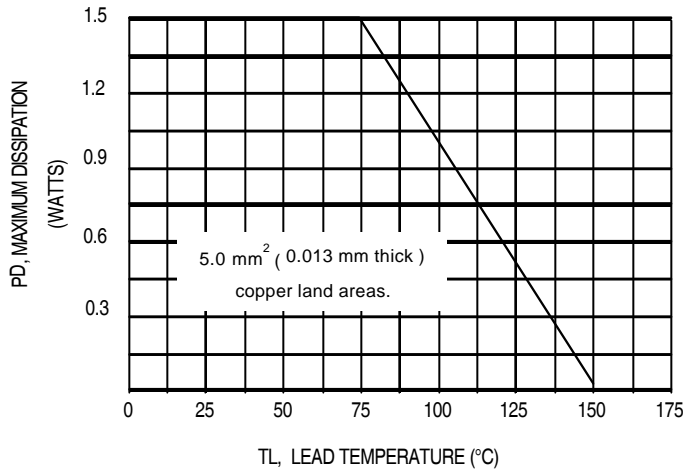


Figure 1. POWER TEMPERATURE DERATING CURVE

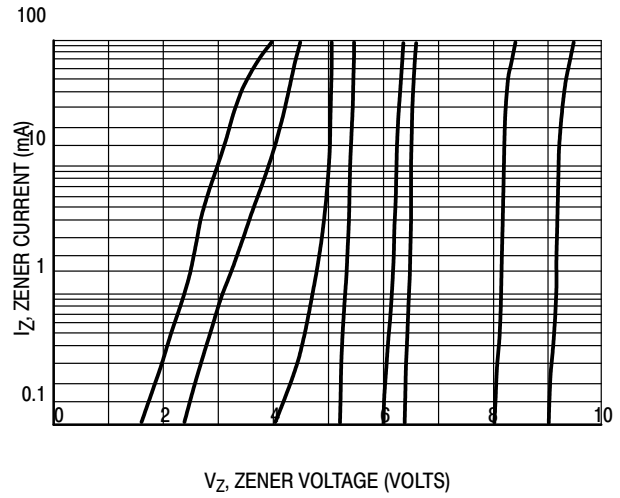


Figure 2. V_Z - 3.3 thru 10 Volts

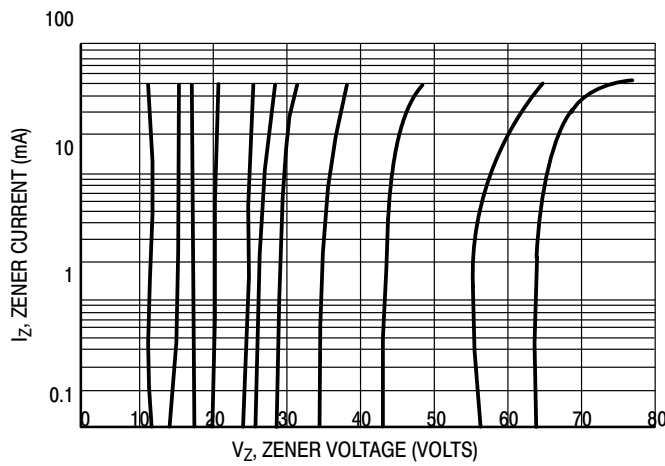


Figure 3. $V_Z = 12$ thru 68 Volts

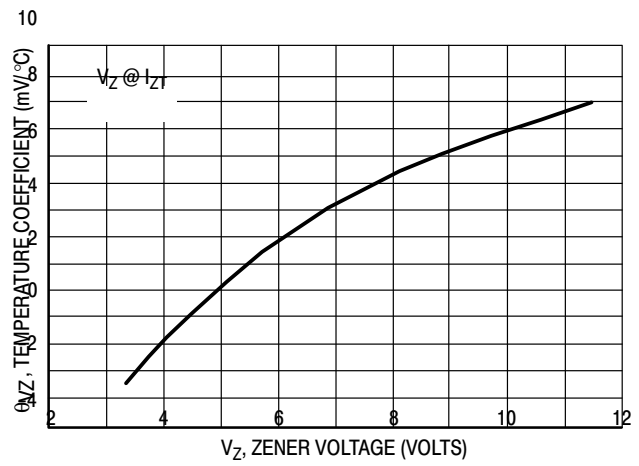


Figure 4. Zener Voltage - 3.3 to 12 Volts

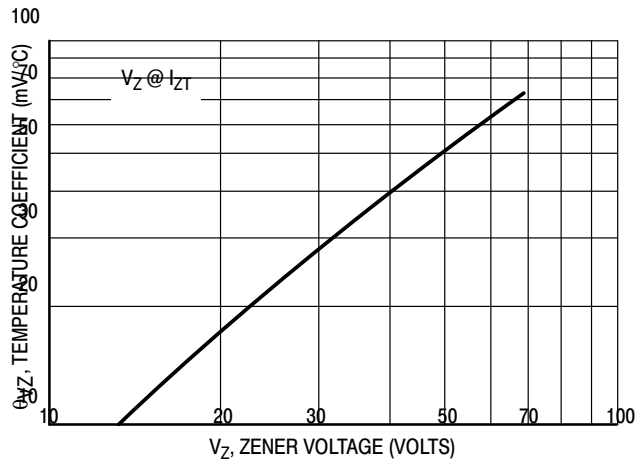


Figure 5. Zener Voltage - 12 to 68 Volts

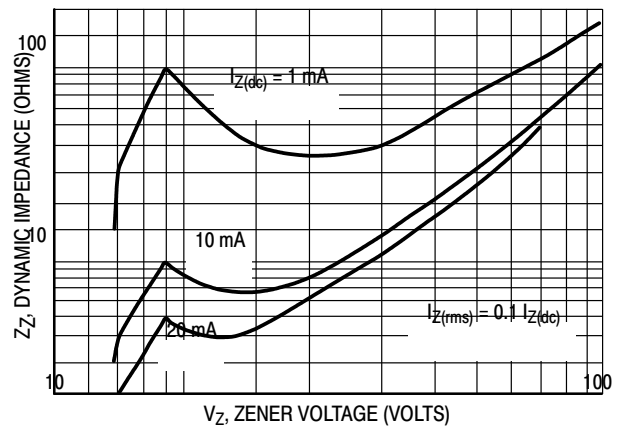


Figure 6. Effect of Zener Voltage

SMAFL5913-SMAFL5957

Surface Mount Zener Diodes



RATING AND TYPICAL CHARACTERISTIC CURVES ($T_A = 25^\circ\text{C}$)

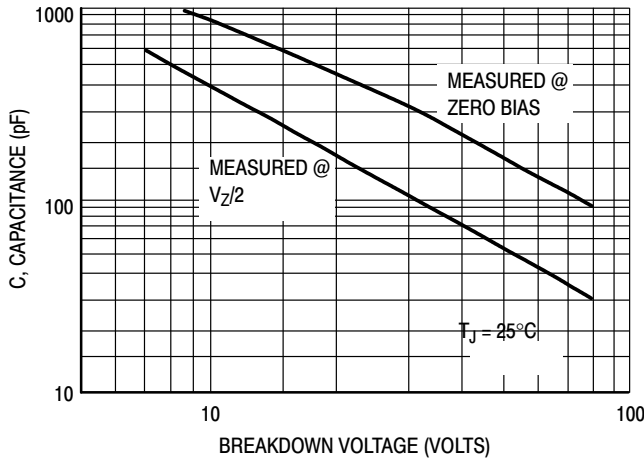


Figure 7. Capacitance Curve

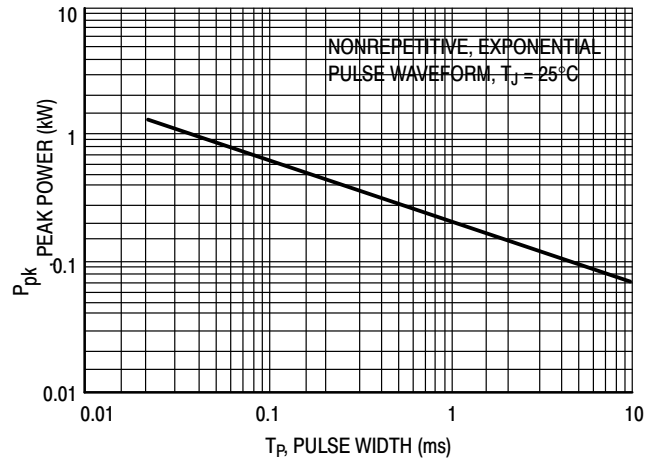


Figure 8. Typical Pulse Rating Curve

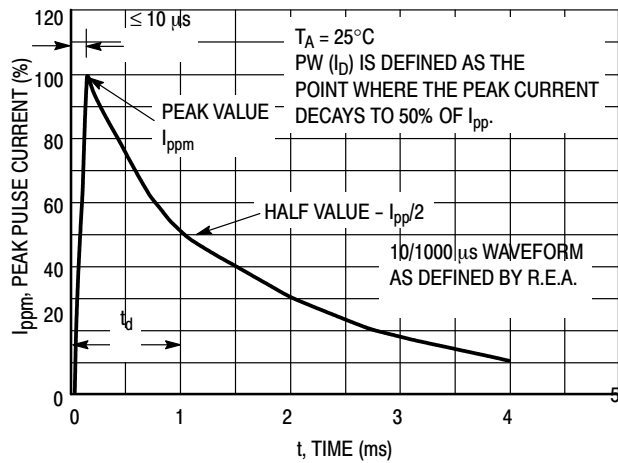


Figure 9. Pulse Waveform

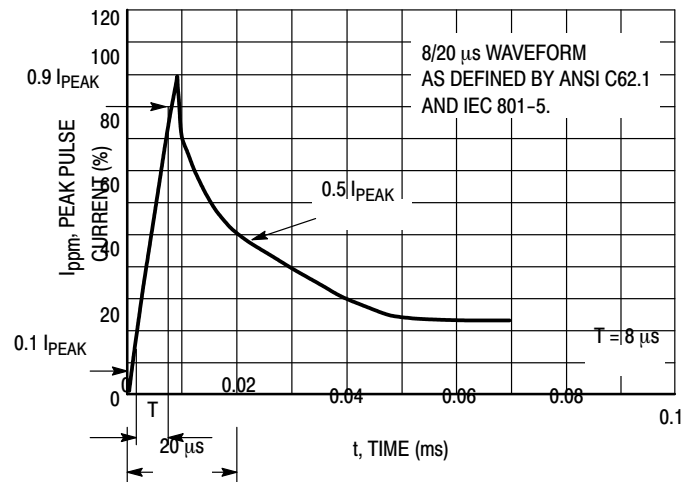


Figure 10. Pulse Waveform

PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
SMAF	3000/REEL	120000	30.5X30.5X42.5	12.00	11.00
PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
SMAF	5000/REEL	100000	30.5X30.5X42.5	10.00	9.00