



SMAG Plastic-Encapsulate Diodes

Feature

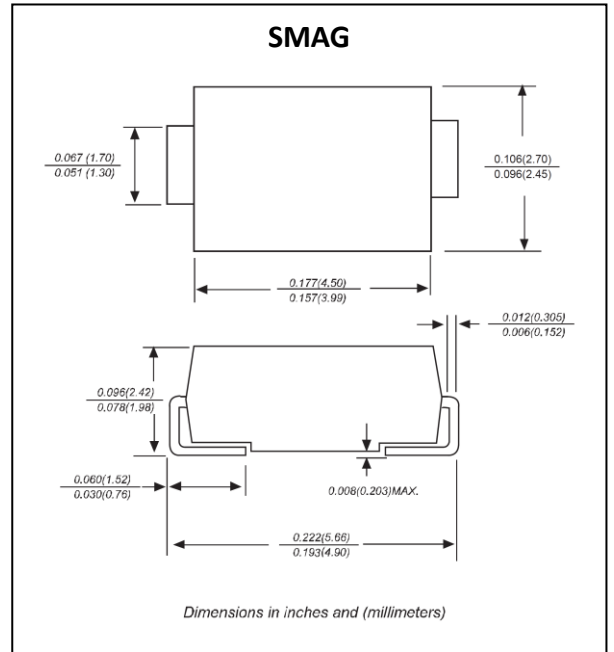
- Pd 3.0W
- Vz 3.3V-200V

Application

- Stabilizing Voltage

Marking

- **SMA59XXB**
X: From 13 To 56



Limiting Values (Absolute Maximum Rating)

Item	Symbol	Conditions	Max	Unit
Power dissipation	P _d	T _L =75°C	3.0	W
Zener current	I _z		P _v / V _z	mA
Maximum junction temperature	T _j		-65 ~ +150	°C
Storage temperature range	T _{stg}		-65 ~ +150	°C
Forward voltage	V _F	I _F =200mA	1.2	V

Electrical Characteristics (TA=25°C unless otherwise noted)

Part Number	Nominal Zener Voltage		Maximum Zener Impedance			Maximum		Maximum
	Vz @ IzT	IzT	ZzT @ IzT	Zzk @ Izk	Izk	Ir @ VR		IzM
	(V)	(mA)	(Ω)	(Ω)	(mA)	(uA)	(V)	(mA)
SMA5913B	3.3	227.3	10	500	1	100	1	817
SMA5914B	3.6	208.3	9	500	1	75	1	749
SMA5915B	3.9	192	4.5	400	1	50	1	691
SMA5916B	4.3	174	4.5	400	1	30	1	627
SMA5917B	4.7	160	4	500	1	20	1	573
SMA5918B	5.1	147	3.5	550	1	5	1	528
SMA5919B	5.6	134	2.5	600	1	5	2	481
SMA5920B	6.2	121	1.5	700	1	5	3	435
SMA5921B	6.8	110	2	700	1	5	4	393
SMA5922B	7.5	100	2	700	0.5	5	5	360
SMA5923B	8.2	91	2.3	700	0.5	5	6	330
SMA5924B	9.1	82	2.5	700	0.5	3	7	297
SMA5925B	10	75	3.5	700	0.25	3	7.6	270
SMA5926B	11	68	4	700	0.25	1	8.4	225
SMA5927B	12	63	4.5	700	0.25	1	9.1	246
SMA5928B	13	58	4.5	700	0.25	0.5	9.9	208
SMA5929B	15	50	5.5	700	0.25	0.5	11.4	180
SMA5930B	16	47	5.5	700	0.25	0.5	12.2	169
SMA5931B	18	42	6	750	0.25	0.5	13.7	150
SMA5932B	20	37	7	750	0.25	0.5	15.2	135
SMA5933B	22	34	8	750	0.25	0.5	16.7	123
SMA5934B	24	31	9	750	0.25	0.5	18.2	112
SMA5935B	27	28	10	750	0.25	0.5	20.6	100
SMA5936B	30	25	16	1000	0.25	0.5	22.5	90
SMA5937B	33	23	20	1000	0.25	0.5	25.1	82
SMA5938B	36	21	22	1000	0.25	0.5	27.4	75
SMA5939B	39	19	28	1000	0.25	0.5	29.7	69
SMA5940B	43	17	33	1500	0.25	0.5	32.7	63
SMA5941B	47	16	38	1500	0.25	0.5	35.6	57
SMA5942B	51	15	45	1500	0.25	0.5	38.8	53
SMA5943B	56	13	50	2000	0.25	0.5	42.6	48
SMA5944B	62	12	55	2000	0.25	0.5	47.1	44
SMA5945B	68	11	70	2000	0.25	0.5	51.7	40
SMA5946B	75	10	85	2000	0.25	0.5	56	36
SMA5947B	82	9.1	95	3000	0.25	0.5	62.2	33

Electrical Characteristics (TA=25°C unless otherwise noted)

Part Number	Nominal Zener Voltage		Maximum Zener Impedance			Maximum		Maximum
	Vz @ IzT	IzT	ZzT @ IzT	Zzk @ IzK	IzK	Ir @ VR		IzM
	(V)	(mA)	(Ω)	(Ω)	(mA)	(uA)	(V)	(mA)
SMA5948B	91	8.2	115	3000	0.25	0.5	69.2	30
SMA5949B	100	7.5	160	3000	0.25	0.5	76	27
SMA5950B	110	6.8	225	4000	0.25	0.5	83.6	25
SMA5951B	120	6.3	300	4500	0.25	0.5	91.2	22
SMA5952B	130	5.8	375	5000	0.25	0.5	98.8	21
SMA5953B	150	5	550	6000	0.25	0.5	114	18
SMA5954B	160	2.3	700	6500	0.25	0.5	121.6	9
SMA5955B	180	2.1	900	7000	0.25	0.5	136.8	8
SMA5956B	200	1.9	1200	8000	0.25	0.5	152	7

Notes :

- (1) The type number listed have a standard tolerance on the nominal zener voltage of $\pm 5\%$ method.
- (2) The reverse surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on IzT per

Typical Characteristics

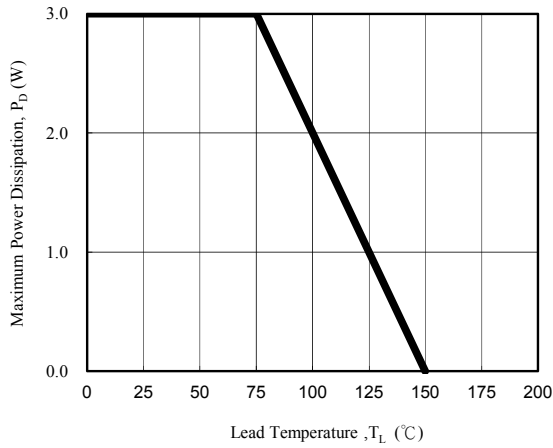


Fig. 1 - Power Temperature Derating Curve

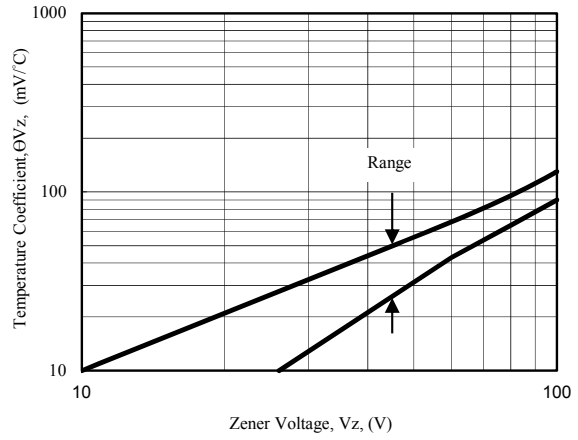


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

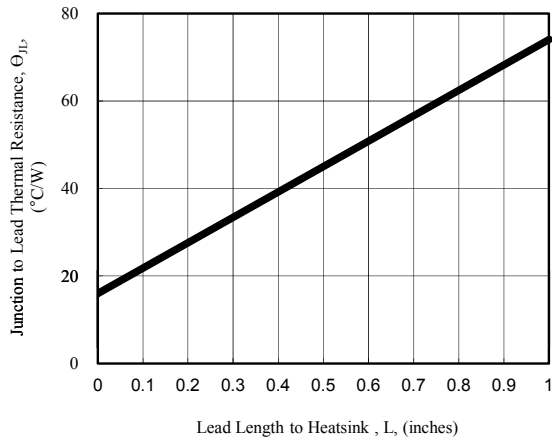


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

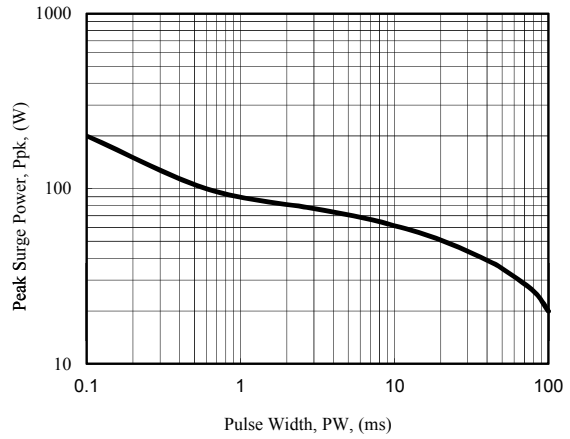


Fig. 4 - Maximum Surge Power

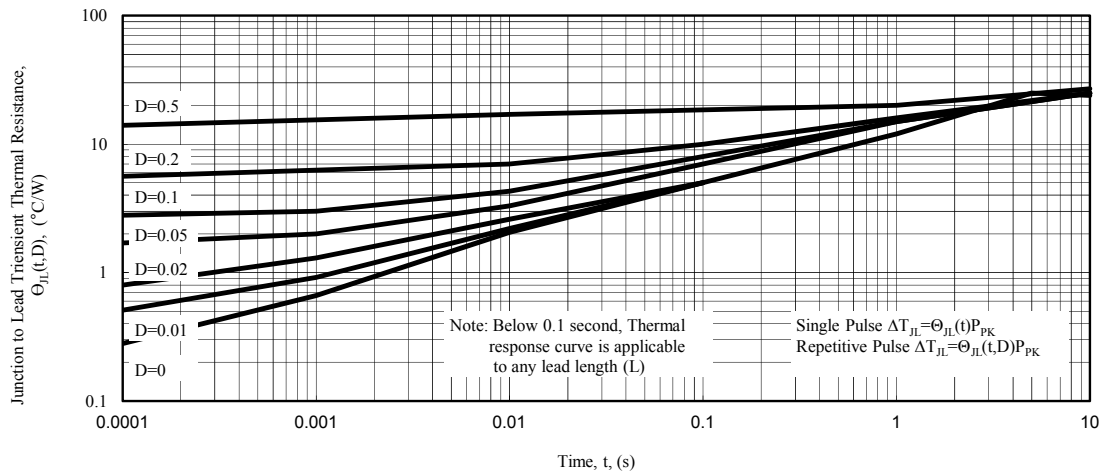


Fig. 5 - Typical Thermal Response L, Lead Length=3/8inch