

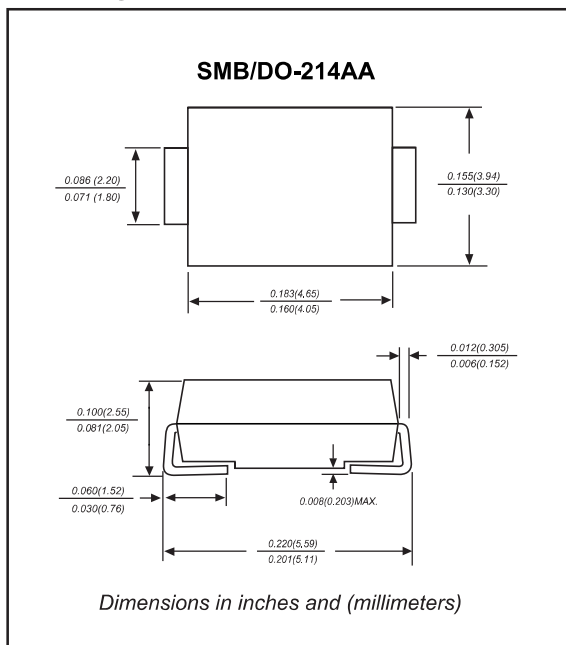
Features

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Wide zener reverse voltage range 3.3V to 200V.
- Small package size for high density applications.
- Ideally suited for automated assembly processes.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, DO-214AA/ SMB
- Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any

Package outline



Maximum ratings (at $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 200 \text{ mA}$	V_F			1.20	V
Power dissipation	$T_L = 50^\circ\text{C}$	P_D			3.0	W
Operating junction temperature range		T_J	-55		+150	$^\circ\text{C}$
Storage temperature range		T_{STG}	-65		+175	$^\circ\text{C}$

Electrical characteristics (at T_A=25°C unless otherwise noted)

TYPE	Marking Code	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)
SMBJ5913B-Q1	5913	3.3	113.6	10	500	1.0	100	1.0	454
SMBJ5914B-Q1	5914	3.6	104.2	9.0	500	1.0	75	1.0	416
SMBJ5915B-Q1	5915	3.9	96.1	7.5	500	1.0	25	1.0	384
SMBJ5916B-Q1	5916	4.3	87.2	6.0	500	1.0	5.0	1.0	348
SMBJ5917B-Q1	5917	4.7	79.8	5.0	500	1.0	5.0	1.5	319
SMBJ5918B-Q1	5918	5.1	73.5	4.0	500	1.0	5.0	2.0	294
SMBJ5919B-Q1	5919	5.6	66.9	2.0	250	1.0	5.0	3.0	267
SMBJ5920B-Q1	5920	6.2	60.5	2.0	200	1.0	5.0	4.0	241
SMBJ5921B-Q1	5921	6.8	55.1	2.5	200	1.0	50	5.2	220
SMBJ5922B-Q1	5922	7.5	50.0	3.0	400	0.5	50	6.0	200
SMBJ5923B-Q1	5923	8.2	45.7	3.5	400	0.5	50	6.5	182
SMBJ5924B-Q1	5924	9.1	41.2	4.0	500	0.5	50	7.0	164
SMBJ5925B-Q1	5925	10	37.5	4.5	500	0.25	50	8.0	150
SMBJ5926B-Q1	5926	11	34.1	5.5	550	0.25	50	8.4	136
SMBJ5927B-Q1	5927	12	31.2	6.5	550	0.25	1.0	9.1	125
SMBJ5928B-Q1	5928	13	28.8	7.0	550	0.25	1.0	9.9	115
SMBJ5929B-Q1	5929	15	25.0	9.0	600	0.25	1.0	11.4	100
SMBJ5930B-Q1	5930	16	23.4	10	600	0.25	1.0	12.2	93
SMBJ5931B-Q1	5931	18	20.8	12	650	0.25	1.0	13.7	83
SMBJ5932B-Q1	5932	20	18.7	14	650	0.25	1.0	15.2	75
SMBJ5933B-Q1	5933	22	17.0	17.5	650	0.25	1.0	16.7	68
SMBJ5934B-Q1	5934	24	15.6	19	700	0.25	1.0	18.2	62
SMBJ5935B-Q1	5935	27	13.9	23	700	0.25	1.0	20.6	55
SMBJ5936B-Q1	5936	30	12.5	26	750	0.25	1.0	22.8	50
SMBJ5937B-Q1	5937	33	11.4	33	800	0.25	1.0	25.1	45
SMBJ5938B-Q1	5938	36	10.4	38	850	0.25	1.0	27.4	41
SMBJ5939B-Q1	5939	39	9.6	45	900	0.25	1.0	29.7	38
SMBJ5940B-Q1	5940	43	8.7	53	950	0.25	1.0	32.7	34
SMBJ5941B-Q1	5941	47	8.0	67	1000	0.25	1.0	35.8	31
SMBJ5942B-Q1	5942	51	7.3	70	1100	0.25	1.0	38.8	29
SMBJ5943B-Q1	5943	56	6.7	86	1300	0.25	1.0	42.6	26
SMBJ5944B-Q1	5944	62	6.0	100	1500	0.25	1.0	47.1	24
SMBJ5945B-Q1	5945	68	5.5	120	1700	0.25	1.0	51.7	22
SMBJ5946B-Q1	5946	75	5.0	140	2000	0.25	1.0	56.0	20
SMBJ5947B-Q1	5947	82	4.6	160	2500	0.25	1.0	62.2	18
SMBJ5948B-Q1	5948	91	4.1	200	3000	0.25	1.0	69.2	16
SMBJ5949B-Q1	5949	100	3.7	250	3100	0.25	1.0	76.0	15
SMBJ5950B-Q1	5950	110	3.4	300	4000	0.25	1.0	83.6	13
SMBJ5951B-Q1	5951	120	3.1	380	4500	0.25	1.0	91.2	12
SMBJ5952B-Q1	5952	130	2.9	450	5000	0.25	1.0	98.8	11
SMBJ5953B-Q1	5953	150	2.5	600	6000	0.25	1.0	114.0	10
SMBJ5954B-Q1	5954	160	2.3	700	6500	0.25	1.0	121.6	9.0
SMBJ5955B-Q1	5955	180	2.1	900	7000	0.25	1.0	136.8	8.0
SMBJ5956B-Q1	5956	200	1.9	1200	8000	0.25	1.0	152.0	7.0

Note :

(1) Suffix " A " indicates ± 10% tolerance, suffix " B " indicates ± 5.0% tolerance.

Rating and characteristic curves

FIG.1 Typical Thermal Response L

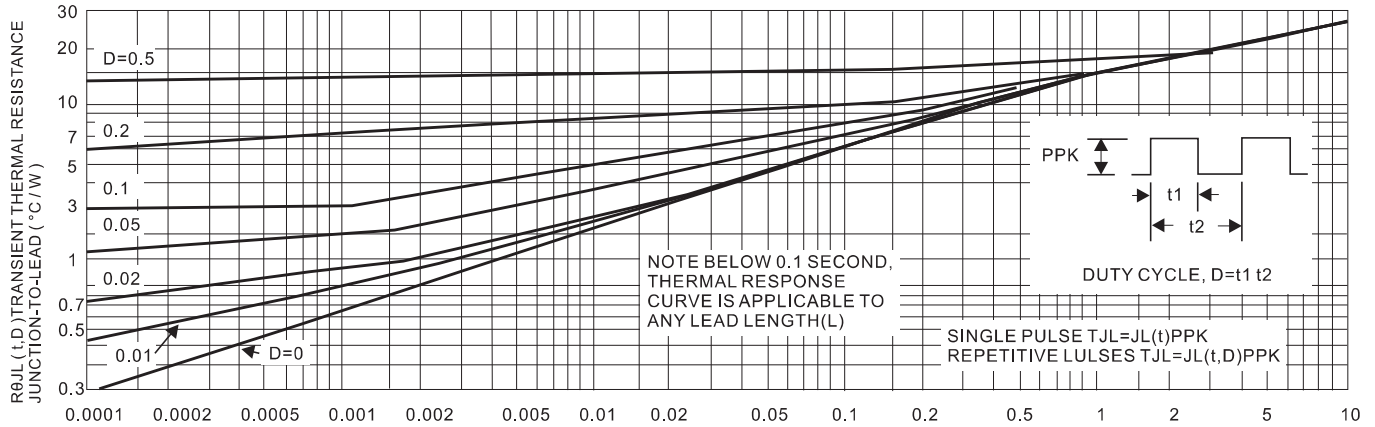


FIG. 2 Maximum Surge Power

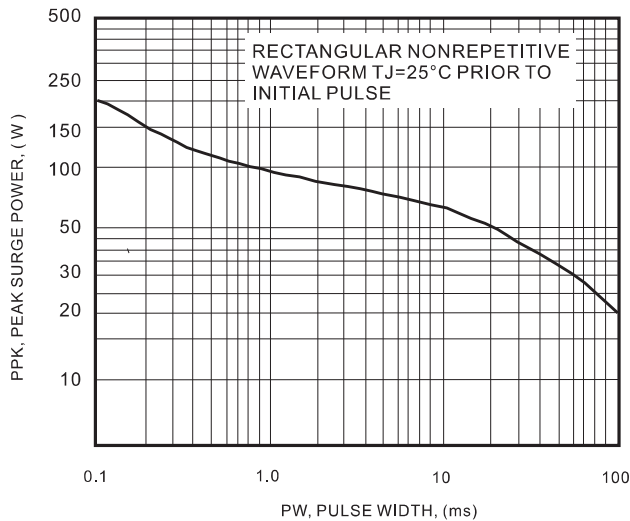


FIG. 3 Maximum Surge Power

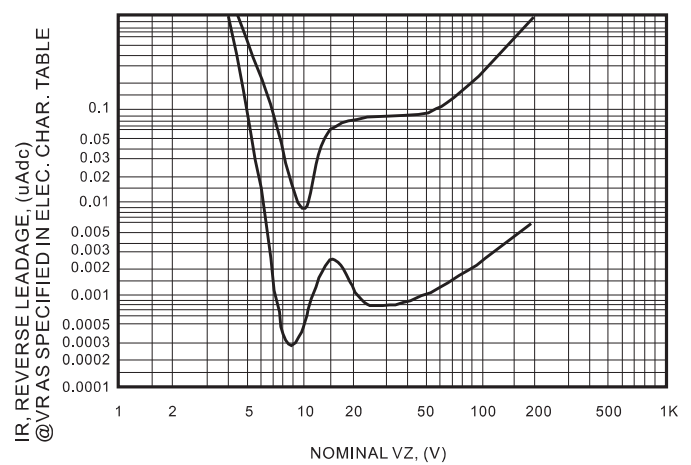


FIG.4 Units To 12 Volts

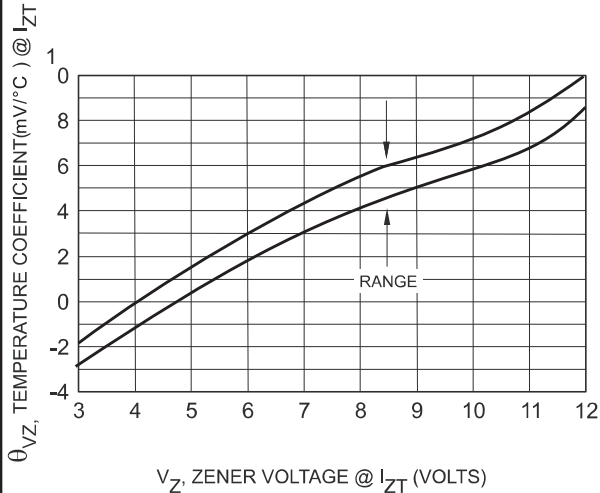
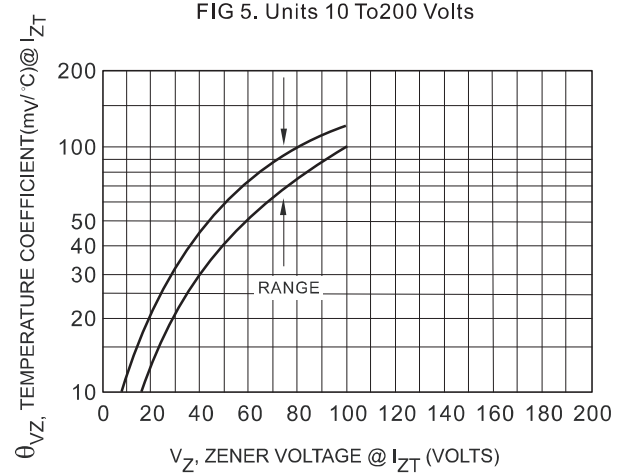


FIG 5. Units 10 To200 Volts



Rating and characteristic curves

FIG.6 To 10 Volts

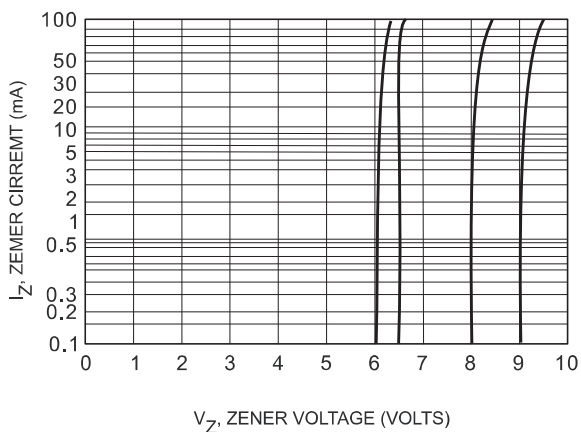


FIG.7 $V_Z = 12$ Thru 82 Volts

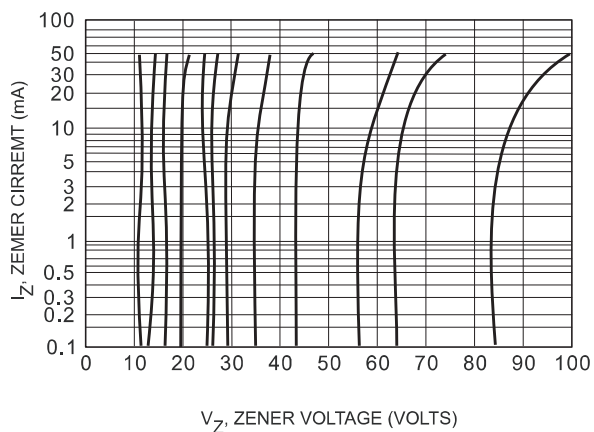


FIG. 8 Typical Thermal Resistance

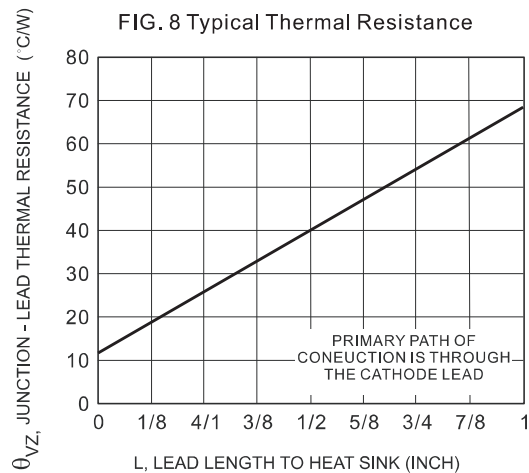


FIG.9 STEADY STATE POWER DERATING

