SZ453G - SZ45D0

2W SURFACE MOUNT ZENER DIODE

V_Z : 3.6 - 200 Volts
P_D : 2 Watts

RoHS COMPLIANT

SMA (DO – 214AC)

FEATURES :

* Complete Voltage Range 3.6 to 200 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 : 0.064 grams

MAXIMUM RATINGS

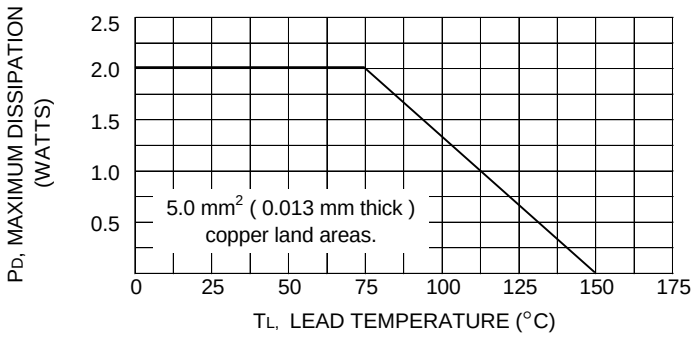
Rating at 25 °C ambient temperature unless otherwise specified

Rating	Symbol	Value	Unit
DC Power Dissipation at T_L = 75 °C (Note1)	P_D	2.0	Watts
Maximum Forward Voltage at I_F = 200 mA	V_F	1.2	Volts
Junction Temperature Range	T_J	- 55 to + 150	°C
Storage Temperature Range	Ts	- 55 to + 150	°C

Note :

(1) T_L = Lead temperature at 5.0 mm^2 (0.013 mm thick) copper land areas.

Fig. 1 POWER TEMPERATURE DERATING CURVE



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)
SZ453G	3.6	139	5.0	400	1.0	80	1.0	504
SZ453J	3.9	128	5.0	400	1.0	30	1.0	468
SZ454D	4.3	116	4.5	400	1.0	20	1.0	434
SZ454H	4.7	106	4.5	550	1.0	5.0	1.0	386
SZ455B	5.1	98.0	3.5	600	1.0	5.0	1.0	356
SZ455G	5.6	89.5	2.5	500	1.0	5.0	2.0	324
SZ456C	6.2	80.5	1.5	700	1.0	5.0	3.0	292
SZ456I	6.8	73.5	2.0	700	1.0	50	4.0	266
SZ457F	7.5	66.5	2.0	700	0.5	50	5.0	242
SZ458C	8.2	61.0	2.3	700	0.5	50	6.0	220
SZ459B	9.1	55.0	2.5	700	0.5	50	7.0	200
SZ4510	10	50.0	3.5	700	0.25	50	7.6	182
SZ4511	11	45.5	4.0	700	0.25	50	8.4	166
SZ4512	12	41.5	4.5	700	0.25	1.0	9.1	152
SZ4513	13	38.5	5.0	700	0.25	0.5	9.9	138
SZ4514	14	35.7	5.5	700	0.25	0.5	10.6	130
SZ4515	15	33.4	7.0	700	0.25	0.5	11.4	122
SZ4516	16	31.2	8.0	700	0.25	0.5	12.2	114
SZ4517	17	29.4	9.0	750	0.25	0.5	13.0	107
SZ4518	18	27.8	10	750	0.25	0.5	13.7	100
SZ4519	19	26.3	11	750	0.25	0.5	14.4	95
SZ4520	20	25.0	11	750	0.25	0.5	15.2	90
SZ4522	22	22.8	12	750	0.25	0.5	16.7	82
SZ4524	24	20.8	13	750	0.25	0.5	18.2	76
SZ4527	27	18.5	18	750	0.25	0.5	20.6	68
SZ4530	30	16.6	20	1000	0.25	0.5	22.5	60
SZ4533	33	15.1	23	1000	0.25	0.5	25.1	55
SZ4536	36	13.9	25	1000	0.25	0.5	27.4	50
SZ4539	39	12.8	30	1000	0.25	0.5	29.7	47
SZ4543	43	11.6	35	1500	0.25	0.5	32.7	43
SZ4547	47	10.6	40	1500	0.25	0.5	35.8	39
SZ4551	51	9.8	48	1500	0.25	0.5	38.8	36
SZ4556	56	9.0	55	2000	0.25	0.5	42.6	32
SZ4562	62	8.1	60	2000	0.25	0.5	47.1	29
SZ4568	68	7.4	75	2000	0.25	0.5	51.7	27
SZ4575	75	6.7	90	2000	0.25	0.5	56.0	24
SZ4582	82	6.1	100	3000	0.25	0.5	62.2	22
SZ4591	91	5.5	125	3000	0.25	0.5	69.2	20
SZ45B0	100	5.0	175	3000	0.25	0.5	76.0	18
SZ45B1	110	4.5	250	4000	0.25	0.5	83.6	17
SZ45B2	120	4.2	325	4500	0.25	0.5	91.2	15
SZ45B3	130	3.8	400	5000	0.25	0.5	98.8	14
SZ45B4	140	3.6	500	5500	0.25	0.5	106.4	13
SZ45B5	150	3.3	575	6000	0.25	0.5	114.0	12
SZ45B6	160	3.1	650	6500	0.25	0.5	121.6	11
SZ45B7	170	2.9	675	7000	0.25	0.5	130.4	11
SZ45B8	180	2.8	725	7000	0.25	0.5	136.8	10
SZ45B9	190	2.6	825	8000	0.25	0.5	144.8	10
SZ45D0	200	2.5	900	8000	0.25	0.5	152.0	9.0

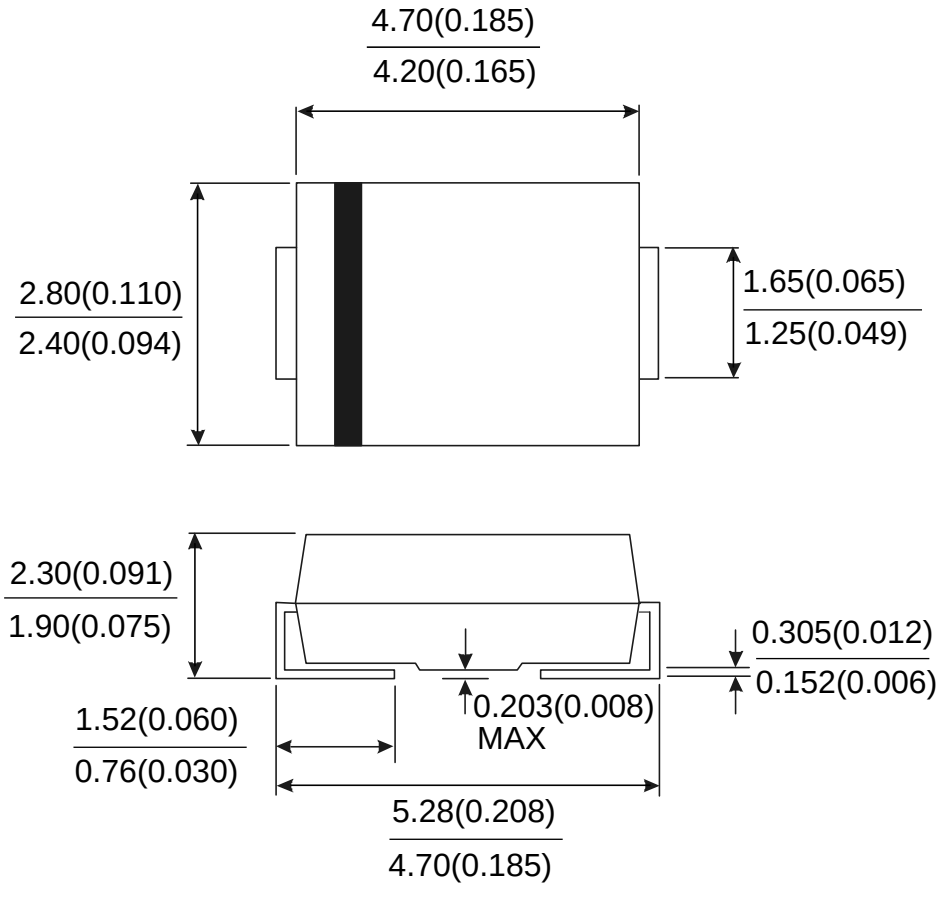
Note:

(1) The type number listed have a standard tolerance on the nominal zener voltage of ± 5.0%, altered the fourth number of type from " 5 " for ± 5.0% tolerance to be " 0 " for ± 10% tolerance.

(2) " SZ " will be omitted in marking on the diode.

Package Outline

SMA



Notice

- Product is intended for use in general electronics applications.
- Product should be worked less than the ratings; if exceeded, may cause permanent damage.or introduce latent failure mechanisms.
- The absolute maximum ratings are rated values and must not be exceeded during operation. The following are the general derating methods you design a circuit with a device.

  $I_{F(AV)}$: We recommend that the worst case current be no greater than 80% .

  I_{FSM} : This rating specifies the non-repetitive peak current. This is only applied for an abnormal operation, which the general during the lifespan of the device.

  T_J : Derate this rating when using a device in order to ensure high reliability. We recommend that the device be used at a T_J of below 125°C.