New Jersey Semi-Conductor Products, Inc.

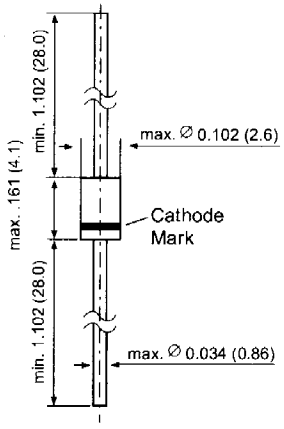
20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

TELEPHONE: (973) 376-2922
(212) 227-6005
FAX: (973) 376-8960

ZPY1 THRU ZPY100

ZENER DIODES

DO-41 Glass



Dimensions are in inches and (millimeters)

FEATURES

- Silicon Planar Power Zener Diodes
- For use in stabilizing and clipping circuits with high power rating
- The Zener voltages are graded according to the international E12 standard. Smaller voltage tolerances and other Zener voltages are available upon request.
- These diode are also available in the MELF case with type designation ZMY1 ... ZMY100.

MECHANICAL DATA

Case: DO-41 Glass Case
Weight: approx. 0.35 g

MAXIMUM RATINGS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOL	VALUE	UNIT
Zener Current (see Table "Characteristics")			
Power Dissipation at T_{amb} = 25°C	P_{tot}	1.3[1)]	Watts
Junction Temperature	T_j	175	°C
Storage Temperature Range	T_S	– 55 to +175	°C

	SYMBOL	MIN.	TYP.	MAX.	UNIT
Thermal Resistance Junction to Ambient Air	R_{thJA}	–	–	130[1)]	°C/W

NOTES:
(1) Valid provided that leads at a distance of 10 mm from case are kept at ambient temperature.

ZPY1 THRU ZPY100

ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Type	Zener voltage[2] at I_{ZT} V_Z (V)	Dynamic resistance at I_{ZT} f = 1 kHz max r_{zj} (Ω)	Temp. coeff. of Zener volt. at I_{ZT} α_{VZ} (10^{-4}/K)	Test current I_{ZT} (mA)	Reverse voltage at I_R= 0.5μA V_R (V)	Admissible Zener current[1] at T_{amb} = 25°C I_Z (mA)
ZPY1[3]	0.65 ... 0.75	6.5 (< 8)	– 26 ... – 23	5	–	580
ZPY3.9	3.7 ... 4.1	4 (< 7)	– 7 ... +2	100	–	290
ZPY4.3	4.0 ... 4.6	4 (< 7)	– 7 ... +3	100	–	260
ZPY4.7	4.4 ... 5.0	4 (< 7)	– 7 ... +4	100	–	235
ZPY5.1	4.8 ... 5.4	2 (< 5)	– 6 ... +5	100	> 0.7	215
ZPY5.6	5.2 ... 6.0	1 (< 2)	– 3 ... +5	100	> 1.5	193
ZPY6.2	5.8 ... 6.6	1 (< 2)	– 1 ... +6	100	> 2.0	183
ZPY6.8	6.4 ... 7.2	1 (< 2)	0 ... +7	100	> 3.0	157
ZPY7.5	7.0 ... 7.9	1 (< 2)	0 ... +7	100	> 5.0	143
ZPY8.2	7.7 ... 8.7	1 (< 2)	+3 ... +8	100	> 6.0	127
ZPY9.1	8.5 ... 9.6	2 (< 4)	+3 ... +8	50	> 7.0	117
ZPY10	9.4 ... 10.6	2 (< 4)	+5 ... +9	50	> 7.5	105
ZPY11	10.4 ... 11.6	3 (< 7)	+5 ... +10	50	> 8.5	94
ZPY12	11.4 ... 12.7	3 (< 7)	+5 ... +10	50	> 9.0	85
ZPY13	12.4 ... 14.1	4 (< 9)	+5 ... +10	50	> 10	78
ZPY15	13.8 ... 15.8	4 (< 9)	+5 ... +10	50	> 11	70
ZPY16	15.3 ... 17.1	5 (< 10)	+7 ... +11	25	> 12	63
ZPY18	16.8 ... 19.1	5 (< 11)	+7 ... +11	25	> 14	57
ZPY20	18.8 ... 21.2	6 (< 12)	+7 ... +11	25	> 15	52
ZPY22	20.8 ... 23.3	7 (< 13)	+7 ... +11	25	> 17	48
ZPY24	22.8 ... 25.6	8 (< 14)	+7 ... +12	25	> 18	42
ZPY27	25.1 ... 28.9	9 (< 15)	+7 ... +12	25	> 20	38
ZPY30	28 ... 32	10 (< 20)	+7 ... +12	25	> 22.5	35
ZPY33	31 ... 35	11 (< 20)	+7 ... +12	25	> 25	31
ZPY36	34 ... 38	25 (< 60)	+7 ... +12	10	> 27	29
ZPY39	37 ... 41	30 (< 60)	+8 ... +12	10	> 29	26
ZPY43	40 ... 46	35 (< 80)	+8 ... +13	10	> 32	24
ZPY47	44 ... 50	40 (< 80)	+8 ... +13	10	> 35	22
ZPY51	48 ... 54	45 (< 100)	+8 ... +13	10	> 38	20
ZPY56	52 ... 60	50 (< 100)	+8 ... +13	10	> 42	18
ZPY62	58 ... 66	60 (< 130)	+8 ... +13	10	> 47	16
ZPY68	64 ... 72	65 (< 130)	+8 ... +13	10	> 51	14
ZPY75	70 ... 79	70 (< 160)	+8 ... +13	10	> 56	13
ZPY82	77 ... 88	80 (< 160)	+8 ... +13	10	> 61	12
ZPY91	85 ... 96	120 (< 250)	+9 ... +13	5	> 68	11
ZPY100	94 ... 106	130 (< 250)	+9 ... +13	5	> 75	10

NOTES:

(1) Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case

(2) Tested with pulses t_p = 5 ms

(3) The ZPY1 is a silicon diode operated in forward direction. Hence, the index of all characteristics and maximum ratings should be "F" instead of "Z" Connect the cathode terminal to the negative pole