

*New Jersey Semi-Conductor Products, Inc.*

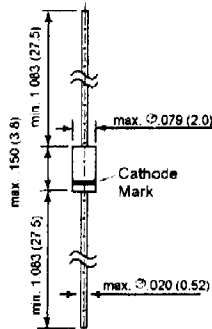
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# 1N4681 THRU 1N4717

## ZENER DIODES

DO-35



Dimensions are in inches and (millimeters)

### FEATURES

- ◆ Silicon Planar Zener Diodes
- ◆ Standard Zener voltage tolerance is  $\pm 5\%$ . Other tolerances are available upon request.
- ◆ High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length.
- ◆ These diodes are also available in SOD-123 case with the type designation MMSZ4681...MMSZ4717 and SOT-23 case with the type designation MMBZ4681...MMBZ4717.

### MECHANICAL DATA

**Case:** DO-35 Glass Case  
**Weight:** approx. 0.13 g  
**Terminals:** Solderable, per MIL-STD-750, method 2026.

### MAXIMUM RATINGS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOL	VALUE	UNIT
Zener Current (see Table "Characteristics")			
Power Dissipation at $T_L = 75^\circ\text{C}$ , 3/8" from case	$P_{tot}$	500	mW
Maximum Junction Temperature	$T_j$	175	$^\circ\text{C}$
Storage Temperature Range	$T_s$	- 65 to +175	$^\circ\text{C}$

	SYMBOL	MIN.	MAX.	UNIT
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	-	300 <sup>(1)</sup>	$^\circ\text{C/W}$
Forward Voltage at $I_F = 100\text{ mA}$	$V_F$	-	1.5	Volts



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## ELECTRICAL CHARACTERISTICS

(TA = 25 °C, unless otherwise specified.)

Type	Zener Voltage <sup>(1)</sup> Vz @ Iz = 50µA (Volts)			Max Reverse Current Ir (µA)	Test Voltage VR (Volts)	Max Zener Current IzM (mA)	Max Voltage Change ΔVz (Volts) <sup>(2)</sup>
	Nominal	Min	Max				
1N4678	1.8	1.71	1.89	7.5	1.0	120	0.70
1N4679	2.0	1.90	2.10	5.0	1.0	110	0.70
1N4680	2.2	2.09	2.31	4.0	1.0	100	0.75
1N4681	2.4	2.28	2.52	2.0	1.0	95.0	0.80
1N4682	2.7	2.57	2.84	1.0	1.0	90.0	0.85
1N4683	3.0	2.85	3.15	0.8	1.0	85.0	0.90
1N4684	3.3	3.14	3.47	7.5	1.5	80.0	0.95
1N4685	3.6	3.42	3.78	7.5	2.0	75.0	0.95
1N4686	3.9	3.71	4.10	5.0	2.0	70.0	0.97
1N4687	4.3	4.09	4.52	4.0	2.0	65.0	0.99
1N4688	4.7	4.47	4.94	10.0	3.0	60.0	0.99
1N4689	5.1	4.85	5.36	10.0	3.0	55.0	0.97
1N4690	5.6	5.32	5.88	10.0	4.0	50.0	0.96
1N4691	6.2	5.89	6.51	10.0	5.0	45.0	0.95
1N4692	6.8	6.46	7.14	10.0	5.1	35.0	0.90
1N4693	7.5	7.13	7.88	10.0	5.7	31.8	0.75
1N4694	8.2	7.79	8.61	1.0	6.2	29.0	0.50
1N4695	8.7	8.27	9.14	1.0	6.6	27.4	0.10
1N4696	9.1	8.65	9.56	1.0	6.9	26.2	0.08
1N4697	10	9.50	10.5	1.0	7.6	24.8	0.10
1N4698	11	10.5	11.6	0.05	8.4	21.6	0.11
1N4699	12	11.4	12.6	0.05	9.1	20.4	0.12
1N4700	13	12.4	13.7	0.05	9.8	19.0	0.13
1N4701	14	13.3	14.7	0.05	10.6	17.5	0.14
1N4702	15	14.3	15.8	0.05	11.4	16.3	0.15
1N4703	16	15.2	16.8	0.05	12.1	15.4	0.16
1N4704	17	16.2	17.9	0.05	12.9	14.5	0.17
1N4705	18	17.1	18.9	0.05	13.6	13.2	0.18
1N4706	19	18.1	20.0	0.05	14.4	12.5	0.19
1N4707	20	19.0	21.0	0.01	15.2	11.9	0.20
1N4708	22	20.9	23.1	0.01	16.7	10.8	0.22
1N4709	24	22.8	25.2	0.01	18.2	9.9	0.24
1N4710	25	23.8	26.3	0.01	19.0	9.5	0.25
1N4711	27	25.7	28.4	0.01	20.4	8.8	0.27
1N4712	28	26.6	29.4	0.01	21.2	8.5	0.28
1N4713	30	28.5	31.5	0.01	22.8	7.9	0.30
1N4714	33	31.4	34.7	0.01	25.0	7.2	0.33
1N4715	36	34.2	37.8	0.01	27.3	6.6	0.36
1N4716	39	37.1	41.0	0.01	29.6	6.1	0.39
1N4717	43	40.9	45.2	0.01	32.6	5.5	0.43

**NOTES:**

(1) Tested with pulses, tp = 5ms

(2) ΔVz is the difference between Vz at 100µA and at 10µA

Tolerance (No Suffix)  
 Tolerance "C Suffix"  
 Tolerance "D Suffix"

±5                    %  
 ±2                    %  
 ±1                    %