



**Microsemi Corp.**  
® The diode experts

# 1N4678 thru 1N4717

SCOTTSDALE, AZ  
 For more information call:  
 (602) 941-6300

## FEATURES

- LOW OPERATING CURRENT AT 50 $\mu$ A
- STANDARD  $\pm$ 5% VOLTAGE TOLERANCE
- GUARANTEED VOLTAGE REGULATION
- ALSO AVAILABLE IN DO-35 PACKAGE

## MAXIMUM RATINGS

Junction and Storage Temperature:  $-65^{\circ}\text{C}$  to  $+200^{\circ}\text{C}$

DC Power Dissipation: 250mW (Capable of 400mW in DO-7 package supplied)

Power Derating: 1.66mW/ $^{\circ}\text{C}$  above  $50^{\circ}\text{C}$  Ambient (2.28mW/ $^{\circ}\text{C}$  above  $25^{\circ}\text{C}$  in DO-7)

Forward Voltage @ 100mA: 1.5 Volts

## \* ELECTRICAL CHARACTERISTICS @ $25^{\circ}\text{C}$

JEDEC TYPE NUMBER	NOMINAL ZENER VOLTAGE (NOTE 3)	ZENER TEST CURRENT	MAXIMUM VOLTAGE REGULATION (NOTE 2 & 3)	MAXIMUM REVERSE LEAKAGE CURRENT		MAXIMUM DC ZENER CURRENT
	$V_Z$	$I_{ZT}$	$\Delta V_Z$	$I_R$ @ $V_R$	$I_{ZM}$	
(NOTE 1)	VOLTS *	$\mu\text{A}$	VOLTS	$\mu\text{A}$	VOLTS	mA
1N4678	1.8	50	0.70	7.5	1.0	120.0
1N4679	2.0	50	0.70	5.0	1.0	110.0
1N4680	2.2	50	0.75	4.0	1.0	100.0
1N4681	2.4	50	0.80	2.0	1.0	95.0
1N4682	2.7	50	0.85	1.0	1.0	90.0
1N4683	3.0	50	0.90	0.8	1.0	85.0
1N4684	3.3	50	0.95	7.5	1.5	80.0
1N4685	3.6	50	0.95	7.5	2.0	75.0
1N4686	3.9	50	0.97	5.0	2.0	70.0
1N4687	4.3	50	0.99	4.0	2.0	65.0
1N4688	4.7	50	0.99	10.0	3.0	60.0
1N4689	5.1	50	0.97	10.0	3.0	55.0
1N4690	5.6	50	0.96	10.0	4.0	50.0
1N4691	6.2	50	0.95	10.0	5.0	45.0
1N4692	6.8	50	0.90	10.0	5.1	35.0
1N4693	7.5	50	0.75	10.0	5.7	31.8
1N4694	8.2	50	0.50	1.0	6.2	29.0
1N4695	8.7	50	0.10	1.0	6.6	27.4
1N4696	9.1	50	0.08	1.0	6.9	26.2
1N4697	10.0	50	0.10	1.0	7.6	24.8
1N4698	11.0	50	0.11	0.05	8.4	21.6
1N4699	12.0	50	0.12	0.05	9.1	20.4
1N4700	13.0	50	0.13	0.05	9.8	19.0
1N4701	14.0	50	0.14	0.05	10.6	17.5
1N4702	15.0	50	0.15	0.05	11.4	16.3
1N4703	16.0	50	0.16	0.05	12.1	15.4
1N4704	17.0	50	0.17	0.05	12.9	14.5
1N4705	18.0	50	0.18	0.05	13.6	13.2
1N4706	19.0	50	0.19	0.05	14.4	12.5
1N4707	20.0	50	0.20	0.01	15.2	11.9
1N4708	22.0	50	0.22	0.01	16.7	10.8
1N4709	24.0	50	0.24	0.01	18.2	9.9
1N4710	25.0	50	0.25	0.01	19.0	9.5
1N4711	27.0	50	0.27	0.01	20.4	8.8
1N4712	28.0	50	0.28	0.01	21.2	8.5
1N4713	30.0	50	0.30	0.01	22.8	7.9
1N4714	33.0	50	0.33	0.01	25.0	7.2
1N4715	36.0	50	0.36	0.01	27.3	6.6
1N4716	39.0	50	0.39	0.01	29.6	6.1
1N4717	43.0	50	0.43	0.01	32.6	5.5

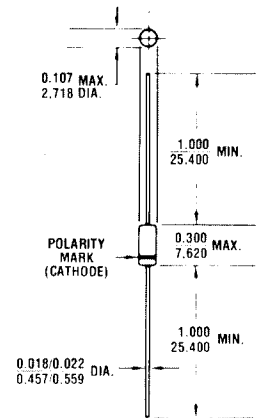
\* JEDEC Registered Data

**NOTE 1** All types as shown are  $\pm$ 5% tolerance. Also available in 2% and 1% tolerance, suffix C and D respectively.

**NOTE 2**  $\Delta V_Z$  @ 100 $\mu\text{A}$  minus  $V_Z$  @ 10 $\mu\text{A}$ .

**NOTE 3** The electrical characteristics are measured after allowing the device to stabilize for 20 seconds when mounted with 3/8" minimum lead length from the base.

## SILICON 250 mW ZENER DIODES



**FIGURE 1**  
All dimensions in INCH  
m.m.

## MECHANICAL CHARACTERISTICS

**CASE:** Hermetically sealed glass case. DO-7.

**FINISH:** All external surfaces are corrosion resistant and leads solderable.

**THERMAL RESISTANCE:** 300 $^{\circ}\text{C}/\text{W}$  (Typical) junction to lead at 0.375-inches from body.

**POLARITY:** Diode to be operated with the banded end positive with respect to the opposite end.

**WEIGHT:** 0.2 grams.

**MOUNTING POSITION:** Any.