

1N4678C THRU 1N4717C

SILICON ZENER DIODE  
LOW LEVEL  
1.8 VOLT THRU 43 VOLT  
500mW, 2% TOLERANCE



www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR 1N4678C series devices are silicon Zener diodes designed for applications requiring an extremely low operating current (50µA), and low leakage.

**MARKING: FULL PART NUMBER**



DO-35 CASE

**MAXIMUM RATINGS:** (T<sub>L</sub>=75°C)

Power Dissipation  
Operating and Storage Junction Temperature

**SYMBOL**

P<sub>D</sub> 500  
T<sub>J</sub>, T<sub>stg</sub> -65 to +200

**UNITS**

mW  
°C

**ELECTRICAL CHARACTERISTICS:** (T<sub>A</sub>=25°C) V<sub>F</sub>=1.5V MAX @ I<sub>F</sub>=100mA (for all types)

Type	Zener Voltage V <sub>Z</sub> @ I <sub>ZT</sub>			Test Current I <sub>ZT</sub>	Maximum Reverse Leakage Current I <sub>R</sub> @ V <sub>R</sub>		Maximum Voltage Change* ΔV <sub>Z</sub>	Maximum Regulator Current I <sub>ZM</sub>
	MIN	NOM	MAX		I <sub>R</sub>	V <sub>R</sub>		
	V	V	V	µA	µA	V	V	mA
1N4678C	1.764	1.8	1.836	50	7.5	1.0	0.70	120.0
1N4679C	1.960	2.0	2.040	50	5.0	1.0	0.70	110.0
1N4680C	2.156	2.2	2.244	50	4.0	1.0	0.75	100.0
1N4681C	2.352	2.4	2.448	50	2.0	1.0	0.80	95.0
1N4682C	2.646	2.7	2.754	50	1.0	1.0	0.85	90.0
1N4683C	2.940	3.0	3.060	50	0.8	1.0	0.90	85.0
1N4684C	3.234	3.3	3.366	50	7.5	1.5	0.95	80.0
1N4685C	3.528	3.6	3.672	50	7.5	2.0	0.95	75.0
1N4686C	3.822	3.9	3.978	50	5.0	2.0	0.97	70.0
1N4687C	4.214	4.3	4.386	50	4.0	2.0	0.99	65.0
1N4688C	4.606	4.7	4.794	50	10	3.0	0.99	60.0
1N4689C	4.998	5.1	5.202	50	10	3.0	0.97	55.0
1N4690C	5.488	5.6	5.712	50	10	4.0	0.96	50.0
1N4691C	6.076	6.2	6.324	50	10	5.0	0.95	45.0
1N4692C	6.664	6.8	6.936	50	10	5.1	0.90	35.0
1N4693C	7.350	7.5	7.650	50	10	5.7	0.75	31.8
1N4694C	8.036	8.2	8.364	50	1.0	6.2	0.50	29.0
1N4695C	8.526	8.7	8.874	50	1.0	6.6	0.10	27.6
1N4696C	8.918	9.1	9.282	50	1.0	6.9	0.08	26.2
1N4697C	9.800	10	10.20	50	1.0	7.6	0.10	24.8

\* ΔV<sub>Z</sub>=V<sub>Z</sub> @ 100µA Minus V<sub>Z</sub> @ 10µA

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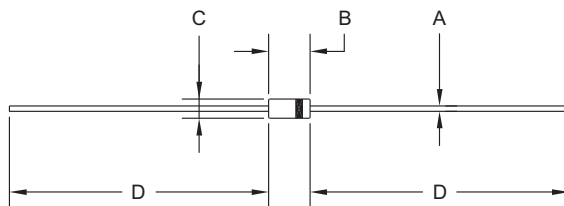


ELECTRICAL CHARACTERISTICS - Continued: ( $T_A=25^\circ\text{C}$ )  $V_F=1.5\text{V MAX @ } I_F=100\text{mA}$  (for all types)

Type	Zener Voltage $V_Z @ I_{ZT}$			Test Current $I_{ZT}$	Maximum Reverse Leakage Current $I_R @ V_R$		Maximum Voltage Change* $\Delta V_Z$	Maximum Regulator Current $I_{ZM}$
	MIN	NOM	MAX		$\mu\text{A}$	$\mu\text{A}$		
	V	V	V	$\mu\text{A}$	$\mu\text{A}$	V	V	mA
1N4698C	10.78	11	11.22	50	0.05	8.4	0.11	21.6
1N4699C	11.76	12	12.24	50	0.05	9.1	0.12	20.4
1N4700C	12.74	13	13.26	50	0.05	9.8	0.13	19.0
1N4701C	13.72	14	14.28	50	0.05	10.6	0.14	17.5
1N4702C	14.70	15	15.30	50	0.05	11.4	0.15	16.3
1N4703C	15.68	16	16.32	50	0.05	12.1	0.16	15.4
1N4704C	16.66	17	17.34	50	0.05	12.9	0.17	14.5
1N4705C	17.64	18	18.36	50	0.05	13.6	0.18	13.2
1N4706C	18.62	19	19.38	50	0.05	14.4	0.19	12.5
1N4707C	19.60	20	20.40	50	0.01	15.2	0.20	11.9
1N4708C	21.56	22	22.44	50	0.01	16.7	0.22	10.8
1N4709C	23.52	24	24.48	50	0.01	18.2	0.24	9.9
1N4710C	24.50	25	25.50	50	0.01	19.0	0.25	9.5
1N4711C	26.46	27	27.54	50	0.01	20.4	0.27	8.8
1N4712C	27.44	28	28.56	50	0.01	21.2	0.28	8.5
1N4713C	29.40	30	30.60	50	0.01	22.8	0.30	7.9
1N4714C	32.34	33	33.66	50	0.01	25.0	0.33	7.2
1N4715C	35.28	36	36.72	50	0.01	27.3	0.36	6.6
1N4716C	38.22	39	39.78	50	0.01	29.6	0.39	6.1
1N4717C	42.14	43	43.86	50	0.01	32.6	0.43	5.5

\*  $\Delta V_Z = V_Z @ 100\mu\text{A}$  Minus  $V_Z @ 10\mu\text{A}$

DO-35 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.018	0.022	0.46	0.56
B	0.120	0.200	3.05	5.08
C	0.060	0.090	1.52	2.29
D	1.000	-	25.40	-

DO-35 (REV: R1)

MARKING: FULL PART NUMBER

R4 (31-July 2013)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

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