



**american**  
power devices, Inc.

1N5283-1N5314

## Field-effect current regulator silicon diodes

### FEATURES

- High impedance
- Regulator current from 0.22 to 4.7 mA
- Usable voltage range from a minimum limit of 1.0 to 2.5 V
- Hermetically sealed glass package

### MAXIMUM RATINGS

- Junction Temperature: -55°C to +200°C
- Storage Temperature: -55°C to +200°C
- DC Power Dissipation: 600mW,  $T_L < 75^\circ\text{C}$
- Derate above 75°C: 4.8 mW/°C
- Peak Operating Voltage: 100 V (from  $T_J = -55^\circ\text{C}$  to +200°C)

Field-effect current regulator diodes are silicon circuit elements that provide an essentially constant current independent of voltage. These high impedance "constant current diodes" complement the "constant voltage" of silicon zener diodes. This series is especially designed for maximum impedance over the operating range. Currents are available from 0.22 to 4.7 mA, with usable voltage range from a minimum limit of 1.0 to 2.5 V, up to a compliance of 100 V. They may be used in parallel to obtain higher currents.

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

Type No.	Regulator Current $I_p$ (mA) @ $V_T = 25$ V			Minimum Dynamic Impedance @ $V_T = 25$ V $Z_T$ (Ω)	Minimum Knee Impedance @ $V_K = 5.0$ V $Z_K$ (Ω)	Maximum Usable Voltage @ $I_L = 0.8 I_p$ (min) $V_U$ (Volts)
	nom	min	max			
1N5283	0.22	0.188	0.242	85.0	3.75	1.00
1N5284	0.24	0.218	0.262	19.0	2.96	1.00
1N5285	0.27	0.245	0.297	14.0	1.86	1.00
1N5286	0.30	0.270	0.330	9.0	1.60	1.00
1N5287	0.33	0.287	0.363	6.8	1.36	1.00
1N5288	0.38	0.351	0.429	4.70	1.00	1.00
1N5289	0.43	0.387	0.473	3.30	0.970	1.05
1N5290	0.47	0.423	0.517	2.70	0.750	1.05
1N5291	0.56	0.504	0.616	1.90	0.690	1.10
1N5292	0.62	0.558	0.682	1.35	0.670	1.15
1N5293	0.68	0.612	0.748	1.05	0.438	1.15
1N5294	0.75	0.675	0.825	1.15	0.235	1.20
1N5295	0.82	0.708	0.892	1.40	0.290	1.26
1N5296	0.91	0.819	1.001	0.880	0.240	1.30
1N5297	1.00	0.900	1.100	0.800	0.206	1.26
1N5298	1.10	0.990	1.210	0.760	0.190	1.40
1N5299	1.20	1.08	1.32	0.640	0.159	1.46
1N5300	1.30	1.17	1.43	0.580	0.135	1.30
1N5301	1.40	1.26	1.54	0.540	0.115	1.55
1N5302	1.50	1.35	1.65	0.510	0.102	1.60
1N5303	1.60	1.44	1.76	0.475	0.092	1.65
1N5304	1.80	1.62	1.98	0.430	0.074	1.75
1N5305	2.00	1.80	2.20	0.395	0.061	1.65
1N5306	2.20	1.98	2.42	0.370	0.052	1.69
1N5307	2.40	2.16	2.64	0.345	0.044	2.00
1N5308	2.70	2.43	2.97	0.320	0.039	2.15
1N5309	3.00	2.70	3.30	0.300	0.035	2.25
1N5310	3.30	2.97	3.63	0.280	0.031	2.30
1N5311	3.60	3.24	3.96	0.265	0.028	2.50
1N5312	4.00	3.60	4.40	0.250	0.017	2.60
1N5313	4.50	3.87	4.73	0.245	0.014	2.75
1N5314	4.70	4.23	5.17	0.236	0.012	2.90

### MECHANICAL CHARACTERISTICS

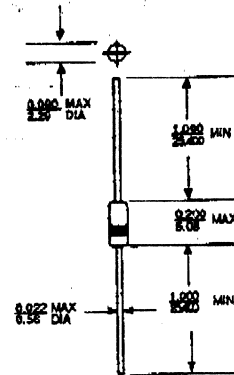
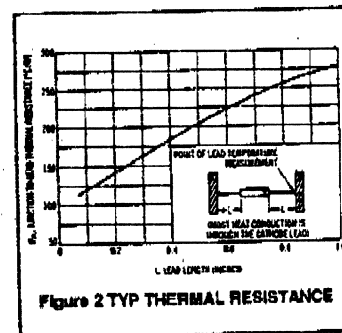


FIGURE 1 all dimensions in INCH (mm)

CASE: Hermetically sealed glass package (DO-35)  
FINISH: Corrosion resistant.  
Leads are tin plated.  
THERMAL RESISTANCE: 175°C/W junction to lead at 0.375-inches from body  
POLARITY: Cathode banded.  
WEIGHT: 0.2 grams (typ).



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