



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, $T_A < 75^\circ\text{C}$
- 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 Leakage Voltage @ $I_L = 0.8 I_p$ (min) V_L (Volts)
	nom	min	max			
1N5283	0.22	0.180	0.242	15.0	3.75	1.00
1N5284	0.24	0.210	0.264	10.0	2.36	1.00
1N5285	0.27	0.240	0.297	14.0	1.86	1.00
1N5286	0.30	0.270	0.330	9.0	1.60	1.00
1N5287	0.33	0.297	0.363	6.8	1.36	1.00
1N5288	0.38	0.351	0.429	5.70	1.00	1.00
1N5289	0.43	0.387	0.473	3.30	0.670	1.05
1N5290	0.47	0.423	0.517	2.70	0.750	1.05
1N5291	0.56	0.504	0.616	1.80	0.660	1.10
1N5292	0.62	0.558	0.682	1.55	0.670	1.15
1N5293	0.68	0.612	0.748	1.35	0.630	1.15
1N5294	0.75	0.675	0.825	1.15	0.535	1.20
1N5295	0.82	0.738	0.902	1.00	0.490	1.25
1N5296	0.91	0.819	1.001	0.880	0.240	1.30
1N5297	1.00	0.900	1.100	0.800	0.306	1.35
1N5298	1.10	0.990	1.210	0.700	0.190	1.40
1N5299	1.20	1.08	1.32	0.640	0.155	1.45
1N5300	1.30	1.17	1.43	0.580	0.135	1.50
1N5301	1.40	1.26	1.54	0.540	0.115	1.55
1N5302	1.50	1.35	1.65	0.510	0.100	1.60
1N5303	1.60	1.44	1.76	0.475	0.092	1.65
1N5304	1.80	1.62	1.98	0.420	0.074	1.75
1N5305	2.00	1.80	2.20	0.365	0.061	1.85
1N5306	2.20	1.98	2.42	0.330	0.052	1.95
1N5307	2.40	2.16	2.64	0.345	0.044	2.00
1N5308	2.70	2.43	2.97	0.330	0.039	2.15
1N5309	3.00	2.70	3.30	0.300	0.029	2.25
1N5310	3.30	2.97	3.63	0.280	0.024	2.30
1N5311	3.60	3.24	3.96	0.265	0.020	2.40
1N5312	3.90	3.51	4.29	0.255	0.017	2.50
1N5313	4.30	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

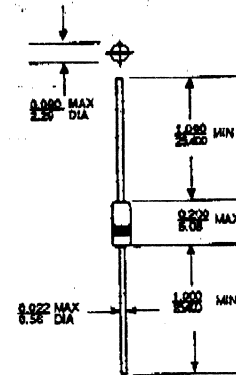


FIGURE 1 all dimensions in INCH
mm

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).

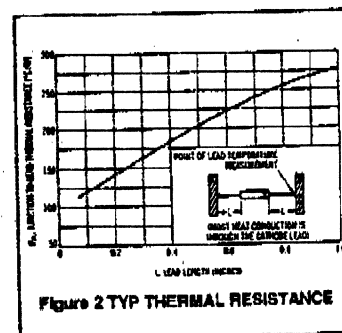


Figure 2 TYP THERMAL RESISTANCE

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