

1N5283 THRU 1N5314
SILICON CURRENT LIMITING DIODES



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DESCRIPTION:

The CENTRAL SEMICONDUCTOR 1N5283 series types are silicon field effect current regulator diodes designed for applications requiring a constant current over a wide voltage range. These devices are manufactured in the cost effective DO-35 double plug case which provides many benefits to the user, including space savings and improved thermal characteristics. Special selections of I_p (regulator current) are available for critical applications.

FEATURES:

- High Reliability
- Superior Lot To Lot Consistency
- Special Selections Available
- Surface Mount Devices Available

MAXIMUM RATINGS: ($T_L=75^\circ\text{C}$)

Peak Operating Voltage
Power Dissipation
Operating and Storage Junction Temperature

SYMBOL

P_{OV} 100
 P_D 600
 T_J, T_{stg} -65 to +200

UNITS

V
mW
 $^\circ\text{C}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$)

| Type | Regulator Current (Note 1) $I_p @ V_T=25\text{V}$ | | | Minimum Dynamic Impedance $Z_T @ V_T=25\text{V}$ | Minimum Knee Impedance $Z_K @ V_K=6.0\text{V}$ | Maximum Limiting Voltage $V_L @ I_L=0.8 \times I_p \text{ MIN}$ |
|--------|--|--------|--------|---|---|--|
| | MIN mA | NOM mA | MAX mA | MΩ | MΩ | V |
| 1N5283 | 0.187 | 0.22 | 0.253 | 25 | 2.75 | 1.0 |
| 1N5284 | 0.204 | 0.24 | 0.276 | 19 | 2.35 | 1.0 |
| 1N5285 | 0.230 | 0.27 | 0.311 | 14 | 1.95 | 1.0 |
| 1N5286 | 0.255 | 0.30 | 0.345 | 9.0 | 1.60 | 1.0 |
| 1N5287 | 0.281 | 0.33 | 0.380 | 6.6 | 1.35 | 1.0 |
| 1N5288 | 0.332 | 0.39 | 0.449 | 4.1 | 1.00 | 1.05 |
| 1N5289 | 0.366 | 0.43 | 0.495 | 3.3 | 0.87 | 1.05 |
| 1N5290 | 0.400 | 0.47 | 0.541 | 2.7 | 0.75 | 1.05 |
| 1N5291 | 0.476 | 0.56 | 0.644 | 1.90 | 0.56 | 1.10 |
| 1N5292 | 0.527 | 0.62 | 0.713 | 1.55 | 0.47 | 1.13 |
| 1N5293 | 0.578 | 0.68 | 0.782 | 1.35 | 0.40 | 1.15 |
| 1N5294 | 0.638 | 0.75 | 0.863 | 1.15 | 0.335 | 1.20 |
| 1N5295 | 0.697 | 0.82 | 0.943 | 1.00 | 0.29 | 1.25 |
| 1N5296 | 0.774 | 0.91 | 1.05 | 0.88 | 0.24 | 1.29 |
| 1N5297 | 0.850 | 1.00 | 1.15 | 0.80 | 0.205 | 1.35 |
| 1N5298 | 0.935 | 1.10 | 1.27 | 0.70 | 0.18 | 1.40 |

Notes: (1) Pulsed Method: Pulse Width (ms) = 27.5 divided by I_p NOM (mA)

R4 (7-February 2013)

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ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^\circ\text{C}$)

| Type | Regulator Current (Note 1) $I_P @ V_T=25V$ | | | Minimum Dynamic Impedance $Z_T @ V_T=25V$ | Minimum Knee Impedance $Z_K @ V_K=6.0V$ | Maximum Limiting Voltage $V_L @ I_L=0.8 \times I_P \text{ MIN}$ |
|--------|--|-----------|-----------|--|--|--|
| | MIN mA | NOM mA | MAX mA | $M\Omega$ | $M\Omega$ | V |
| 1N5299 | 1.02 | 1.20 | 1.38 | 0.640 | 0.155 | 1.45 |
| 1N5300 | 1.11 | 1.30 | 1.50 | 0.580 | 0.135 | 1.50 |
| 1N5301 | 1.19 | 1.40 | 1.61 | 0.540 | 0.115 | 1.55 |
| 1N5302 | 1.28 | 1.50 | 1.73 | 0.510 | 0.105 | 1.60 |
| 1N5303 | 1.36 | 1.60 | 1.84 | 0.475 | 0.092 | 1.65 |
| 1N5304 | 1.53 | 1.80 | 2.07 | 0.420 | 0.074 | 1.75 |
| 1N5305 | 1.70 | 2.00 | 2.30 | 0.395 | 0.061 | 1.85 |
| 1N5306 | 1.87 | 2.20 | 2.53 | 0.370 | 0.052 | 1.95 |
| 1N5307 | 2.04 | 2.40 | 2.76 | 0.345 | 0.044 | 2.00 |
| 1N5308 | 2.30 | 2.70 | 3.11 | 0.320 | 0.035 | 2.15 |
| 1N5309 | 2.55 | 3.00 | 3.45 | 0.300 | 0.029 | 2.25 |
| 1N5310 | 2.81 | 3.30 | 3.80 | 0.280 | 0.024 | 2.35 |
| 1N5311 | 3.06 | 3.60 | 4.14 | 0.265 | 0.020 | 2.50 |
| 1N5312 | 3.32 | 3.90 | 4.49 | 0.255 | 0.017 | 2.60 |
| 1N5313 | 3.66 | 4.30 | 4.95 | 0.245 | 0.014 | 2.75 |
| 1N5314 | 4.00 | 4.70 | 5.41 | 0.235 | 0.012 | 2.90 |

DO-35 CASE - MECHANICAL OUTLINE



| DIMENSIONS | | | | |
|------------|--------|-------|-------------|------|
| SYMBOL | 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)

R1

R4 (7-February 2013)