

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.



DO-35 CASE

## 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

$P_{OV}$

$P_D$

$T_J, T_{stg}$

100

600

-65 to +200

## UNITS

V

mW

$^\circ\text{C}$

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

| Type   | Regulator Current<br>(Note 1)<br>$I_P @ V_T=25\text{V}$ |           |           | Minimum Dynamic Impedance<br>$Z_T @ V_T=25\text{V}$ | Minimum Knee Impedance<br>$Z_K @ V_K=6.0\text{V}$ | Maximum Limiting Voltage<br>$V_L @ I_L=0.8 \times I_P \text{ MIN}$ |
|--------|---------------------------------------------------------|-----------|-----------|-----------------------------------------------------|---------------------------------------------------|--------------------------------------------------------------------|
|        | MIN<br>mA                                               | NOM<br>mA | MAX<br>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  $I_P \text{ NOM (mA)}$

R4 (7-February 2013)

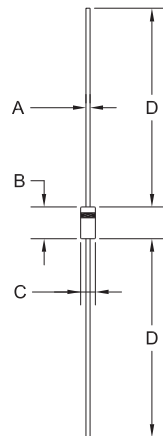
**1N5283 THRU 1N5314**  
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**ELECTRICAL CHARACTERISTICS - Continued:** ( $T_A=25^\circ\text{C}$ )

| Type   | Regulator Current<br>(Note 1)<br>$I_P @ V_T=25V$ |           |           | Minimum Dynamic Impedance<br>$Z_T @ V_T=25V$ | Minimum Knee Impedance<br>$Z_K @ V_K=6.0V$ | Maximum Limiting Voltage<br>$V_L @ I_L=0.8 \times I_P \text{ MIN}$ |
|--------|--------------------------------------------------|-----------|-----------|----------------------------------------------|--------------------------------------------|--------------------------------------------------------------------|
|        | MIN<br>mA                                        | NOM<br>mA | MAX<br>mA | MΩ                                           | MΩ                                         | 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

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