

- 1N5283-1 THRU 1N5314-1 AVAILABLE IN JAN, JANTX, JANTXV AND JANS
- PER MIL-PRF-19500/463
- CURRENT REGULATOR DIODES
- HIGH SOURCE IMPEDANCE
- METALLURGICALLY BONDED
- DOUBLE PLUG CONSTRUCTION

1N5283 thru 1N5314  
and  
1N5283-1 thru 1N5314-1

### MAXIMUM RATINGS

Operating Temperature: -65°C to +175°C  
Storage Temperature: -65°C to +175°C  
DC Power Dissipation: 500mW @  $T_L = +50^\circ\text{C}$ ,  $L = 3/8"$   
Power Derating: 4 mW / °C above +50°C  
Peak Operating Voltage: 100 Volts

### ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified

| TYPE NUMBER | REGULATOR CURRENT<br>$I_p$ (mA) @ $V_S = 25V$ |       |       | MINIMUM DYNAMIC IMPEDANCE<br>@ $V_S = 25V$<br>$Z_S$ (MΩ)<br>(Note 1) | MINIMUM KNEE IMPEDANCE<br>@ $V_K = 6.0V$<br>$Z_K$ (MΩ)<br>(Note 2) | MAXIMUM LIMITING VOLTAGE<br>@ $I_L = 0.8Ip$ (min)<br>$V_L$ (VOLTS) |
|-------------|---|-------|-------|--|--|--|
|             | NOM   | MIN   | MAX   |  |  |  |
| 1N5283      | 0.22  | 0.198 | 0.242 | 25.0   | 2.75   | 1.00   |
| 1N5284      | 0.24  | 0.216 | 0.264 | 19.0   | 2.35   | 1.00   |
| 1N5285      | 0.27  | 0.243 | 0.297 | 14.0   | 1.95   | 1.00   |
| 1N5286      | 0.30  | 0.270 | 0.330 | 9.0  | 1.60   | 1.00   |
| 1N5287      | 0.33  | 0.297 | 0.363 | 6.6  | 1.35   | 1.00   |
| 1N5288      | 0.39  | 0.351 | 0.429 | 4.10   | 1.00   | 1.05   |
| 1N5289      | 0.43  | 0.387 | 0.473 | 3.30   | 0.870  | 1.05   |
| 1N5290      | 0.47  | 0.423 | 0.517 | 2.70   | 0.750  | 1.05   |
| 1N5291      | 0.56  | 0.504 | 0.616 | 1.90   | 0.560  | 1.10   |
| 1N5292      | 0.62  | 0.558 | 0.682 | 1.55   | 0.470  | 1.13   |
| 1N5293      | 0.68  | 0.612 | 0.748 | 1.35   | 0.400  | 1.15   |
| 1N5294      | 0.75  | 0.675 | 0.825 | 1.15   | 0.335  | 1.20   |
| 1N5295      | 0.82  | 0.738 | 0.902 | 1.00   | 0.290  | 1.25   |
| 1N5296      | 0.91  | 0.819 | 1.001 | 0.880  | 0.240  | 1.29   |
| 1N5297      | 1.00  | 0.900 | 1.100 | 0.800  | 0.205  | 1.35   |
| 1N5298      | 1.10  | 0.990 | 1.210 | 0.700  | 0.180  | 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  | 0.105  | 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  | 0.395  | 0.061  | 1.85   |
| 1N5306      | 2.20  | 1.98  | 2.42  | 0.370  | 0.052  | 1.95   |
| 1N5307      | 2.40  | 2.16  | 2.64  | 0.345  | 0.044  | 2.00   |
| 1N5308      | 2.70  | 2.43  | 2.97  | 0.320  | 0.035  | 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  | 2.35   |
| 1N5311      | 3.60  | 3.24  | 3.96  | 0.265  | 0.020  | 2.50   |
| 1N5312      | 3.90  | 3.51  | 4.29  | 0.255  | 0.017  | 2.60   |
| 1N5313      | 4.30  | 3.87  | 4.73  | 0.245  | 0.014  | 2.75   |
| 1N5314      | 4.70  | 4.23  | 5.17  | 0.235  | 0.012  | 2.90   |

NOTE 1  $Z_S$  is derived by superimposing A 90Hz RMS signal equal to 10% of  $V_S$  on  $V_S$

NOTE 2  $Z_K$  is derived by superimposing A 90Hz RMS signal equal to 10% of  $V_K$  on  $V_K$

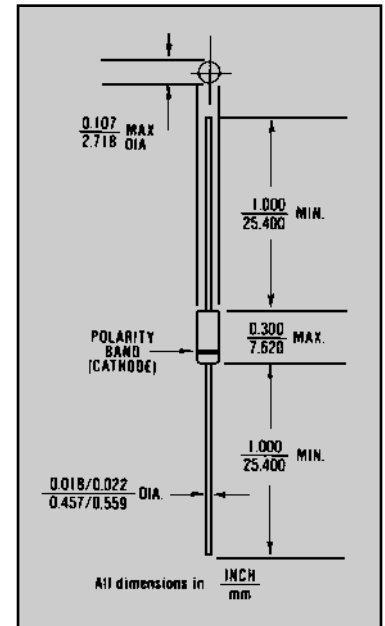


FIGURE 1

### DESIGN DATA

CASE: Hermetically sealed glass case. DO - 7 outline.

LEAD MATERIAL: Copper clad steel.

LEAD FINISH: Tin / Lead

THERMAL RESISTANCE: ( $R_{\theta JC}$ ): 250 °C/W maximum at  $L = .375$  inch

THERMAL IMPEDANCE: ( $Z_{\theta JX}$ ): 25 °C/W maximum

POLARITY: Diode to be operated with the banded (Cathode) end negative.

WEIGHT: 0.2 grams.

MOUNTING POSITION: Any.



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# 1N5283 thru 1N5314 INCLUDING -1 VERSIONS

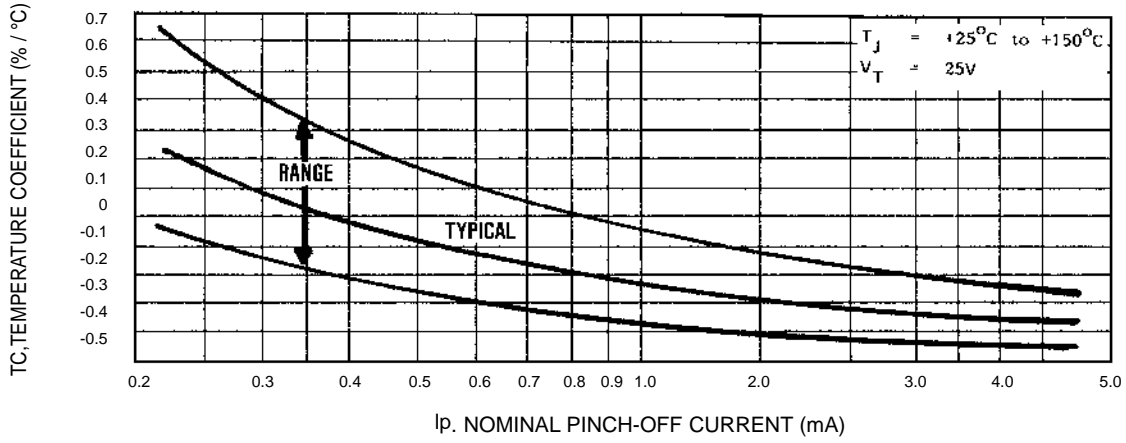


FIGURE 2 TEMPERATURE COEFFICIENT

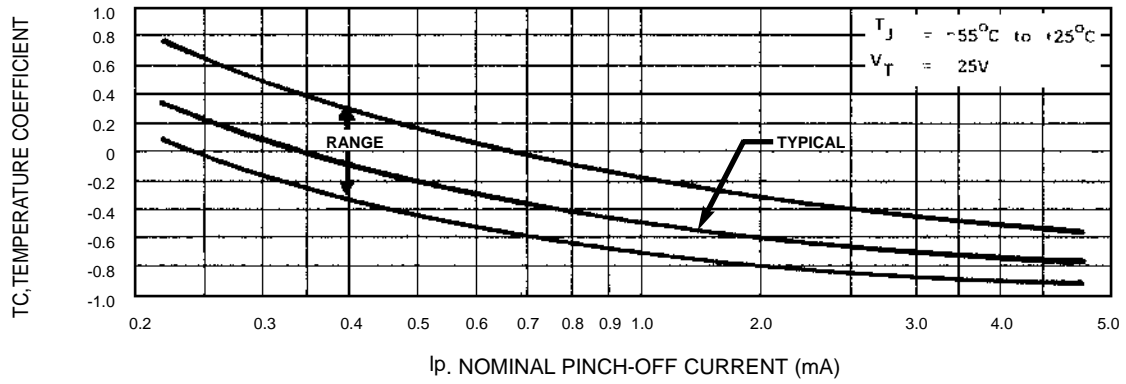


FIGURE 3 TEMPERATURE COEFFICIENT

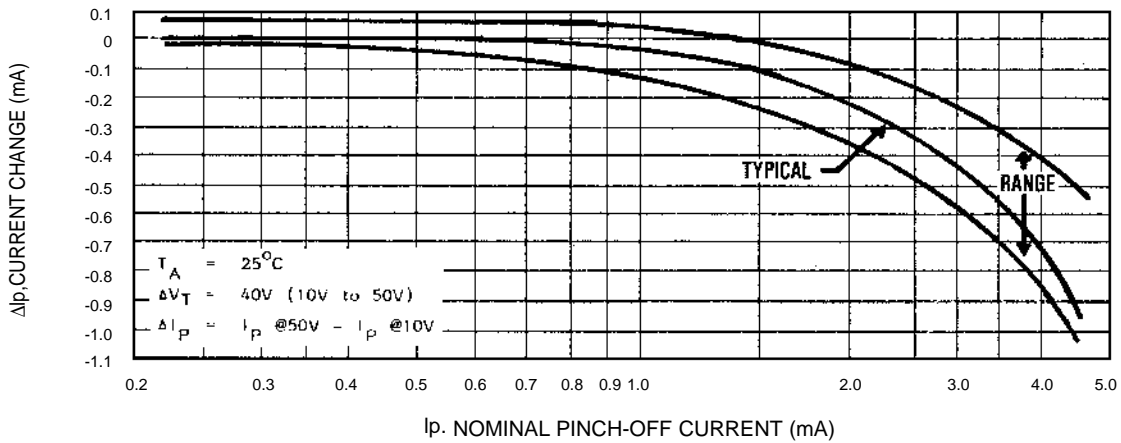


FIGURE 4 CURRENT REGULATION FACTOR