



**Table 28. General-Purpose Regulator Diodes (continued)**

Nominal Zener Voltage (*Note 1)	10 Watt Cathode to Case = 1N3993 Series Anode to Case = 1N2970 Series  (*Notes 9,10)	50 Watt Anode to Case  (*Notes 9,10)
	 Metal Case 56-03 (DO-203AA)	 Metal Case 58-01 (DO-5 Type)
1.8 2 2.2 2.4 2.5 2.7 2.8 3 3.3		
3.6 3.9 4.3 4.7 5.1 5.6 6 6.2	1N3993&R 1N3994&R 1N3995&R 1N3996&R 1N3997&R  1N3998&R	1N4549A&RA 1N4550A&RA 1N4551A&RA 1N4552A&RA 1N4553A&RA  1N4554A&RA
6.8	1N3999&R 1N2970A&RA	1N4555A&RA 1N3305A&RA
7.5	1N4000&R 1N2971A&RA	1N4556A&RA 1N3306A&RA
8.2	1N2972A&RA	1N3307A&RA
8.7		
9.1	1N2973A&RA	1N3308A&RA
10	1N2974A&RA	1N3309A&RA
11	1N2975A&RA	1N3310A&RA
12	1N2976A&RA	1N3311A&RA
13	1N2977A&RA	1N3312A&RA
14	1N2878A&RA	1N3313A&RA
15	1N2979A&RA	1N3314A&RA
16	1N2980A&RA	1N3315A&RA
17		1N3316A&RA
18	1N2982A&RA	1N3317A&RA
19	1N2983A&RA	1N3318A&RA
20	1N2984A&RA	1N3319A&RA
22	1N2985A&RA	1N3320A&RA
24	1N2986A&RA	1N3321A&RA
25		1N3322A&RA
27	1N2988A&RA	1N3323A&RA
28		
30	1N2989A&RA	1N3324A&RA
33	1N2990A&RA	1N3325A&RA
36	1N2991A&RA	1N3326A&RA
39	1N2992A&RA	1N3327A&RA
43	1N2993A&RA	1N3328A&RA
47	1N2996A&RA	1N33330A&RA
50		
51	1N2997A&RA	1N3332A&RA
52		1N3334A&RA
56	1N2999A&RA	
60		1N3335A&RA
62	1N3000A&RA	1N3336A&RA
68	1N3001A&RA	
75	1N3002A&RA	1N3337A&RA
82	1N3003A&RA	1N3338A&RA
87		
91	1N3004A&RA	1N3339A&RA
100	1N3005A&RA	1N3340A&RA
105		
110	1N3007A&RA	1N3342A&RA
120	1N3008A&RA	1N3343A&RA
130	1N3009A&RA	1N3344A&RA
140		1N3345A&RA
150	1N3011A&RA	1N3346A&RA
160	1N3012A&RA	1N3347A&RA
170		
175		
180	1N3014A&RA	1N3349A&RA
200	1N3015A&RA	1N3350A&RA

JAN JANTX (V) available, ±5% only.

**NOTES**

- The zener voltage is measured at approximately 1/4 the rated power, with the following exceptions: the 1N4678-4717 is measured with  $I_{ZT} = 50 \mu\text{Adc}$ ; the 1N4614/1N4099 is measured with  $I_{ZT} = 250 \mu\text{Adc}$ ; the 1N4370/1N746 and the 1N5221-5242 are measured with  $I_{ZT} = 20 \text{ mAdc}$ ; the 1N5985A-6012A is measured with  $I_{ZT} = 5 \text{ mA}$ ; 1N6013A-6023A is measured with  $I_{ZT} = 2 \text{ mA}$ ; 1N6024-6025 is measured with  $I_{ZT} = 1 \text{ mA}$ .

**Tolerances**

- No suffix = ±5%  
C suffix = 2%  
D suffix = 1%
- A Suffix = ±10% with guaranteed limits on  $V_Z$ ,  $V_F$ , and  $I_R$  only  
B suffix = ±5%  
C suffix = ±2%  
D suffix = ±1%
- MLL4370/1N4370/1N746 series:  
No suffix = ±10%  
A suffix = ±5%  
C suffix = 2%  
D suffix = 1%  
MLL957/1N957 series:  
A suffix = ±10%  
B suffix = ±5%  
C suffix = 2%  
D suffix = 1%

Military parts in 1N4370/746/962/4099/4614/5518 series supplied in DO-7. Military parts in 1N4370/746/962/4099/4614/5518 are also available in the cost effective DO-204AH (DO-35) package as the -1 version. This version can be ordered by inserting a 1 between the part number and the JAN, JTX or JTXV suffix, i.e. 1N746A1JAN. MIL-STD 19500/117 and 127 state the -1 version is a direct substitute for the non -1 version. The -1 versions appear on MIL-STD 701 as the preferred parts for new designs.

- No suffix = ±10% with guaranteed limits on  $V_Z$ ,  $V_F$  and  $I_R$  only.  
A suffix = ±10%  
B suffix = ±5%
- No suffix = ±10%  
A suffix = ±5%  
C suffix = 2%  
D suffix = 1%
- 1N3821 series: No suffix = ±10%  
A suffix = ±5%  
1N3016 series: A suffix = ±10%  
B suffix = ±5%
- A suffix = ±10% C suffix = ±2%  
B suffix = ±5% D suffix = ±1%
- A suffix = ±10%  
B suffix = ±5%  
Exception:  
1N3993-1N4000: No suffix = ±10%  
A suffix = ±5%

- RA and RB = reverse polarity types available
- Available in 8 mm tape and reel  
T1 cathode facing sprocket holes  
T2 anode facing sprocket holes
- Available in 12 mm tape and reel  
T1 cathode facing sprocket holes  
T2 anode facing sprocket holes
- Available in 8 mm tape and reel, both T1 and T2 options.