

# TYPES 1N702 THRU 1N707, 1N702A THRU 1N707A SILICON VOLTAGE-REGULATOR DIODES

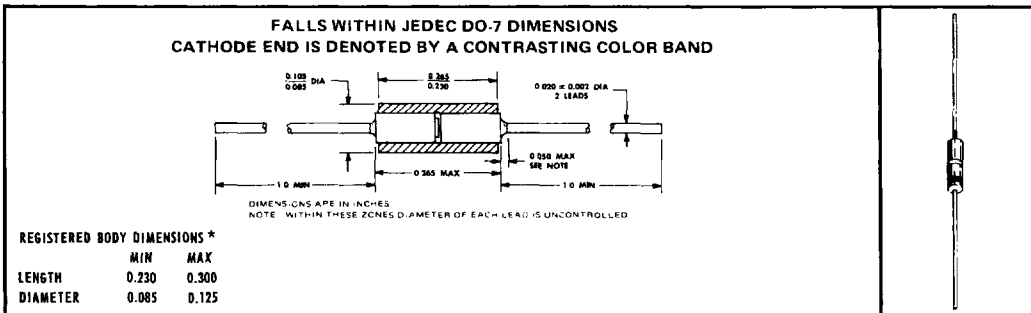
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$V_Z \dots 2.6 \text{ V to } 7.1 \text{ V}$   
 $P_D \dots 400 \text{ mW}$

- Available in 5% and 10% Tolerances
- Rugged Double-Plug Construction

## mechanical data

Double-plug construction affords integral positive contact by means of a thermal compression bond. Moisture-free stability is ensured through hermetic sealing. The coefficients of thermal expansion of the glass case and the dumet plugs are closely matched to allow extreme temperature excursions. Hot-solder-dipped leads are standard.



## absolute maximum ratings

TYPE	$I_{ZM}$ Steady-State Regulator Current, $T_A \leq 25^\circ\text{C}$		P Dissipation, $T_A \leq 25^\circ\text{C}$  (See Note 1)	$T_{stg}$ Storage Temperature Range	$T_L$ Lead Temperature  (See Note 2)
	TI Nominal†	JEDEC Value*			
1N702	125 mA		400 mW† 250 mW*	-65°C  to  200°C *	230°C*
1N702A	138 mA	87 mA			
1N703	103 mA				
1N703A	109 mA	66 mA			
1N704	89 mA				
1N704A	93 mA	58 mA			
1N705	74 mA				
1N705A	78 mA	48 mA			
1N706	62 mA				
1N706A	65 mA	41 mA			
1N707	50 mA				
1N707A	53 mA	33 mA			

NOTES: 1. For operation above 25°C free-air temperature, refer to Dissipation Derating Curve, Figure 1.

2. This value applies  $\frac{1}{16}$  inch from the case for 10 seconds.

\*Indicates JEDEC registered data

†The nominal  $I_{ZM}$  currents shown are applicable to devices having regulator voltages at the upper limit of the range specified for each type. These values do not represent absolute limits. The actual steady-state current-voltage product must not exceed 400 mW.

‡This value is guaranteed by Texas Instruments in addition to the JEDEC registered value which is also shown.

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\*electrical characteristics at 25°C free-air temperature (unless otherwise noted)

PARAMETER	CHARACTERISTICS							TEST VOLTAGE
	$V_Z$ Zener Breakdown Voltage			$Z_z$ Small-Signal Breakdown Impedance	$I_R$ Static Reverse Current		$V_F$ Static Forward Voltage	
	$I_{ZT} = 5 \text{ mA}$			$I_{ZT} = 10 \text{ mA}$ $I_{ZT} = 1 \text{ mA}$ $f = 60 \text{ Hz}$	$V_R = V_{R(1)}$ $T_A = 25^\circ\text{C}$	$V_R = V_{R(1)}$ $T_A = 100^\circ\text{C}$	$I_F = 200 \text{ mA}$	
LIMITS	MIN	NOM	MAX	MAX	MAX	MAX	MAX	
UNIT	V			$\Omega$	$\mu\text{A}$	$\mu\text{A}$	V	V
1N702	2.00	2.60	3.20	60	75	100		1
1N702A	2.30	2.60	2.90	60	75	100	1	1
1N703	3.00	3.45	3.90	55	50	100		1
1N703A	3.23	3.45	3.67	55	50	100	1	1
1N704	3.70	4.10	4.50	45	5	100		1
1N704A	3.90	4.10	4.30	45	5	100	1	1
1N705	4.30	4.85	5.40	35	5	100		1.5
1N705A	4.58	4.85	5.12	35	5	100	1	1.5
1N706	5.20	5.80	6.40	20	5	100		1.5
1N706A	5.50	5.80	6.10	20	5	100	1	1.5
1N707	6.20	7.10	8.00	10	5	50		3.5
1N707A	6.65	7.10	7.55	10	5	50	1	3.5

\*Indicates JEDEC registered data

## THERMAL INFORMATION

DISSIPATION DERATING CURVE

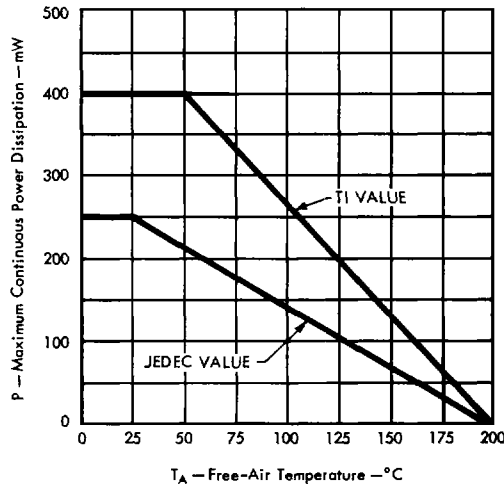


FIGURE 1