TYPES 1N456 THRU 1N459, 1N461 THRU 1N464, 1N482 THRU 1N485, AND SUFFIX VERSIONS SILICON GENERAL PURPOSE DIODES

BULLETIN NO. DL-S 7111508, SEPTEMBER 1971

$V_{RM(wkg)}$ . . . 25 to 185 Volts

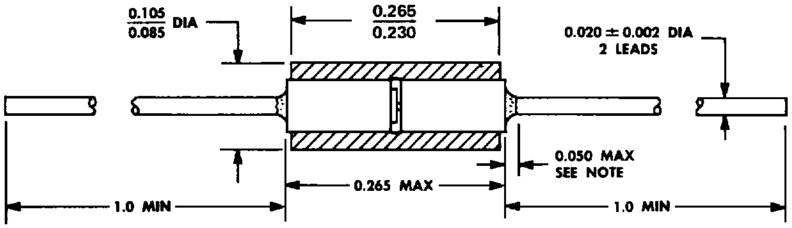
- Rugged Double-Plug Construction
- Low Reverse Current

description and mechanical data

The glass-passivated silicon chip combines extremely low reverse current with a high degree of stability. True glass passivation and the absence of an organic coating ensure protection of the junction from contaminants and moisture.

Double-plug construction affords integral positive contacts 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. Gold-plated leads are available on request.

FALLS WITHIN JEDEC DO-7 DIMENSIONS
CATHODE END IS DENOTED BY A CONTRASTING COLOR BAND



DIMENSIONS ARE IN INCHES

NOTE: WITHIN THESE ZONES DIAMETER OF EACH LEAD IS UNCONTROLLED

REGISTERED BODY DIMENSIONS*

	1N456 THRU 1N459 1N461 THRU 1N464	1N456A THRU 1N459A 1N461A THRU 1N464A	1N482 THRU 1N485 1N482A THRU 1N485A 1N482B THRU 1N485B
LENGTH	0.265 MAX	0.265 MAX	0.300 MAX
DIAMETER	0.105 MAX	0.140 MAX	0.105 MAX

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*JEDEC registered data. This data sheet contains all applicable registered data in effect at the time of publication.

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***absolute maximum ratings at 25°C free-air temperature (unless otherwise noted)**

TYPE	V_{RM} Peak Reverse Voltage	$V_{RM(wkg)}$ Working Peak Reverse Voltage	I_O Average Rectified Forward Current @ $T_A \leq 25^\circ$C (See Notes 1 and 2)	I_F Steady State Forward Current @ $T_A \leq 25^\circ$C (See Note 2)	$I_{FM(surge)}$ Peak Surge Current		P Continuous Power Dissipation $T_A \leq 25^\circ$C (See Note 5)	T_{stg} Storage Temperature Range
					1 s (See Note 3)	2 µs (See Note 4)		
1N456	30 V	25 V	90 mA	135 mA	0.7 A	1.2 A	200 mW	−80°C to 200°C
1N456A			200 mA	—	1.5 A	—	500 mW	
1N457	70 V	60 V	75 mA	110 mA	0.6 A	1.0 A	200 mW	
1N457A			200 mA	—	1.5 A	—	500 mW	
1N458	150 V	125 V	55 mA	80 mA	0.5 A	0.8 A	200 mW	
1N458A			200 mA	—	1.5 A	—	500 mW	
1N459	200 V	175 V	40 mA	60 mA	0.4 A	0.7 A	200 mW	
1N459A			200 mA	—	1.5 A	—	500 mW	
1N461	30 V	25 V	60 mA	90 mA	0.55 A	0.9 A	200 mW	
1N461A			200 mA	—	1.5 A	—	500 mW	
1N462	70 V	60 V	50 mA	75 mA	0.5 A	0.8 A	200 mW	
1N462A			200 mA	—	1.5 A	—	500 mW	
1N463	200 V	175 V	30 mA	50 mA	0.4 A	0.7 A	200 mW	
1N463A			200 mA	—	1.5 A	—	500 mW	
1N464	150 V	125 V	40 mA	60 mA	0.4 A	0.7 A	200 mW	
1N464A			200 mA	—	1.5 A	—	500 mW	

***absolute maximum ratings at 25°C free-air temperature (unless otherwise noted)**

TYPE	V_{RM} Peak Reverse Voltage	$V_{RM(wkg)}$ Working Peak Reverse Voltage	I_O Average Rectified Forward Current @ $T_A \leq 25^\circ$C (See Notes 1 and 2)	$I_{FM(rep)}$ Repetitive Peak Forward Current (See Note 6)	$I_{FM(surge)}$ Peak Surge Current (See Note 7)	P Continuous Power Dissipation (See Note 5)	T_{stg} Storage Temperature Range
1N482	40 V	36 V	100 mA	400 mA	1 A	250 mW	−65°C to 200°C
1N482A			200 mA	650 mA	2 A		
1N482B			200 mA	650 mA	2 A		
1N483	80 V	70 V	100 mA	400 mA	1 A		
1N483A			200 mA	650 mA	2 A		
1N483B			200 mA	650 mA	2 A		
1N484	150 V	130 V	100 mA	400 mA	1 A		
1N484A			200 mA	650 mA	2 A		
1N484B			200 mA	650 mA	2 A		
1N485	200 V	180 V	100 mA	400 mA	1 A		
1N485A			200 mA	650 mA	2 A		
1N485B			200 mA	650 mA	2 A		

NOTES:
1. These values may be applied continuously under single-phase 60-Hz half-sine wave operation with resistive load.
2. For operation above 25°C free-air temperature refer to Forward Current Derating Curve Figure 1.
3. These values apply for a one-second square-wave pulse with the device at nonoperating thermal equilibrium immediately prior to the surge.
4. These values apply for 2-µs pulses, duty cycle $\leq$ 1%, with the device at nonoperating thermal equilibrium immediately prior to the surge.
5. For operation above 25°C free-air temperature refer to Dissipation Derating Curve Figure 2.
6. These values apply for a 4-ms square-wave pulse, duty cycle $\leq$ 25%.
7. These values apply for a 1/10-second square-wave pulse with the device at nonoperating thermal equilibrium immediately prior to the surge.

*JEDEC registered data

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

PARAMETER	$V_{(BR)}$ Reverse Breakdown Voltage	I_R Static Reverse Current		V_F Static Forward Voltage	TEST VOLTAGE AND CURRENT	
TEST CONDITIONS	I_R = 100 μA	T_A = 25°C	T_A = 150°C		V_R FOR TESTING I_R	I_F FOR TESTING V_F
LIMITS	MIN	MAX	MAX	MAX		
1N456	30 V	25 nA	5 μA	1.0 V	25 V	40 mA
1N456A						100 mA
1N457	70 V				60 V	20 mA
1N457A						100 mA
1N458	150 V				125 V	7 mA
1N458A						100 mA
1N459	200 V				175 V	3 mA
1N459A						100 mA
1N461	30 V	500 nA	30 μA		25 V	15 mA
1N461A						100 mA
1N462	70 V				60 V	5 mA
1N462A						100 mA
1N463	200 V				175 V	1 mA
1N463A						100 mA
1N464	150 V				125 V	3 mA
1N464A						100 mA
1N482	40 V	250 nA	30 μA	1.1 V	30 V	100 mA
1N482A		25 nA	15 μA	1.0 V		
1N482B		25 nA	5 μA	1.0 V		
1N483	80 V	250 nA	30 μA	1.1 V	60 V	100 mA
1N483A		25 nA	15 μA	1.0 V		
1N483B		25 nA	5 μA	1.0 V		
1N484	150 V	250 nA	30 μA	1.1 V	125 V	100 mA
1N484A		25 nA	15 μA	1.0 V		
1N484B		25 nA	5 μA	1.0 V		
1N485	200 V	250 nA	30 μA	1.1 V	175 V	100 mA
1N485A		25 nA	15 μA	1.0 V		
1N485B		25 nA	5 μA	1.0 V		

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*JEDEC registered data

THERMAL INFORMATION

FORWARD CURRENT DERATING CURVE

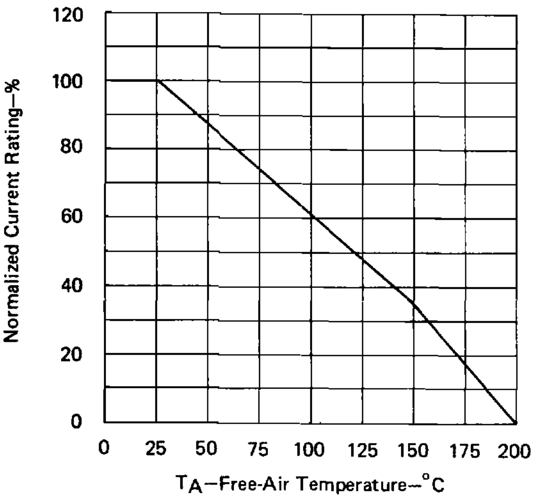

FIGURE 1

DISSIPATION DERATING CURVE

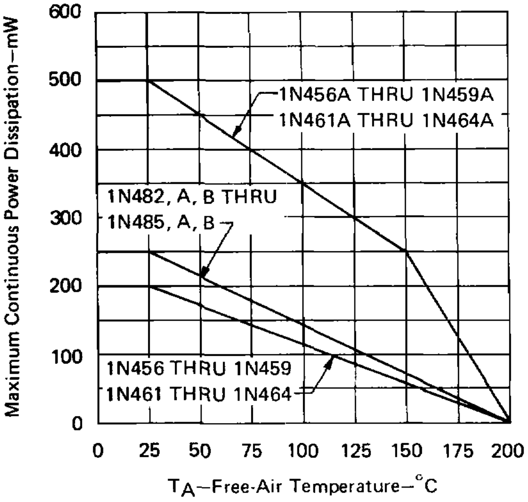

FIGURE 2

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