

Ultrafast Recovery Rectifiers

Qualified per MIL-PRF-19500/477

DESCRIPTION:

This voidless hermetically sealed ultrafast recovery rectifier diode series is military qualified per Mil-PRF-19500/477 and is targeted for commercial and military aircraft, military vehicles, shipboard markets, space and all other high reliability applications.

FEATURES / BENEFITS:

- ✓ Hermetic, non-cavity glass package
- ✓ Category I Metallurgically bonded
- ✓ All devices are 100% hot solder dipped
- ✓ JAN/ JANTX/JANTXV available per MIL-PRF-19500/477

MAXIMUM RATINGS

- ✓ Operating and Storage Temperature: -65°C to +175°C
- ✓ Thermal Resistance: 22°C (junction to lead)
- ✓ Thermal Resistance: 6.5°C (junction to endcap)
- ✓ Forward surge current: 125A @ 8.3 ms half-sine

ELECTRICAL CHARACTERISTICS

TYPE NUMBER	WORKING PEAK REVERSE VOLTAGE	AVG RECTIFIED CURRENT ¹	MAXIMUM REVERSE CURRENT @ PIV		MAX. PEAK FORWARD VOLTAGE (PULSED) V _F @ 4A	MAXIMUM SURGE CURRENT ² I _{FSM}	MAXIMUM REVERSE RECOVERY TIME ³ T _{rr}
		Amps	μAmps				
	Volts	55°C	25°C	125°C	V	Amps	nsec
1N5807/US	50	6.0	5	525	.875	125	30
1N5809/US	100						
1N5811/US	150						

Note 1: T_{EC} = T_L at L=0 or T_{end tab} for US suffix devices. Derate at 60mA/°C for T_L above 75°C.

Note 2: I_o = 3A, 8.3ms surge

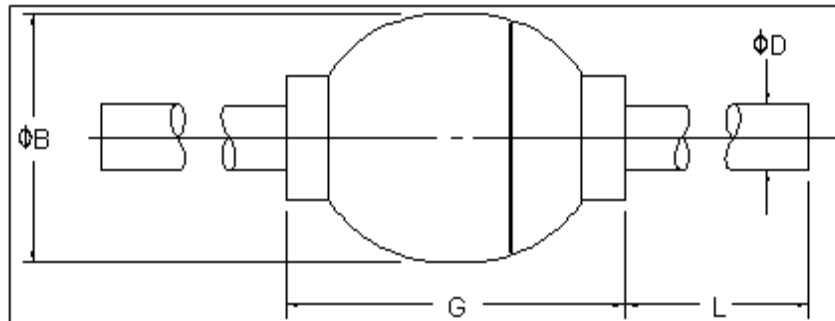
Note 3: I_F=1A, I_{RM}=1A, I_{R(REC)} = .10A

*Sensitron **space equivalent diodes** are manufactured and screened to MIL-PRF-19500 flow and guidelines starting from wafer fabrication through assembly and testing using our internal specification.

**TECHNICAL DATA
DATA SHEET 127, REV. H.6**

PACKAGE DIMENSIONS (inches/mm)

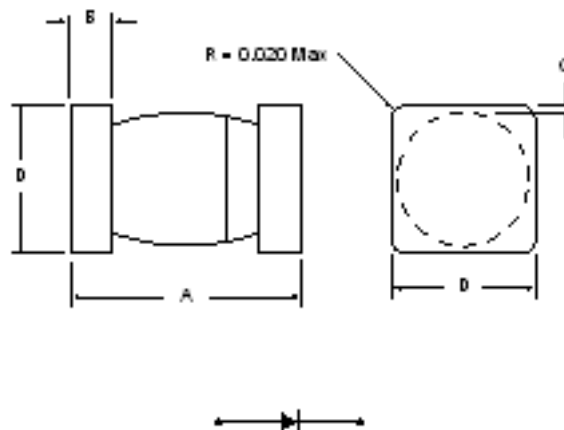
AXIAL



PACKAGE STYLE	DIMENSIONS - INCHES (MILLIMETERS)			
	ϕB	ϕD	G	L
304	.115/.142 2.92/3.61	.036/.042 .94/1.07	.130/.300 3.30/7.62	.90/1.30 22.9/33.0

MELF (Add "US" to Part Number)

MELF PACKAGE OUTLINES

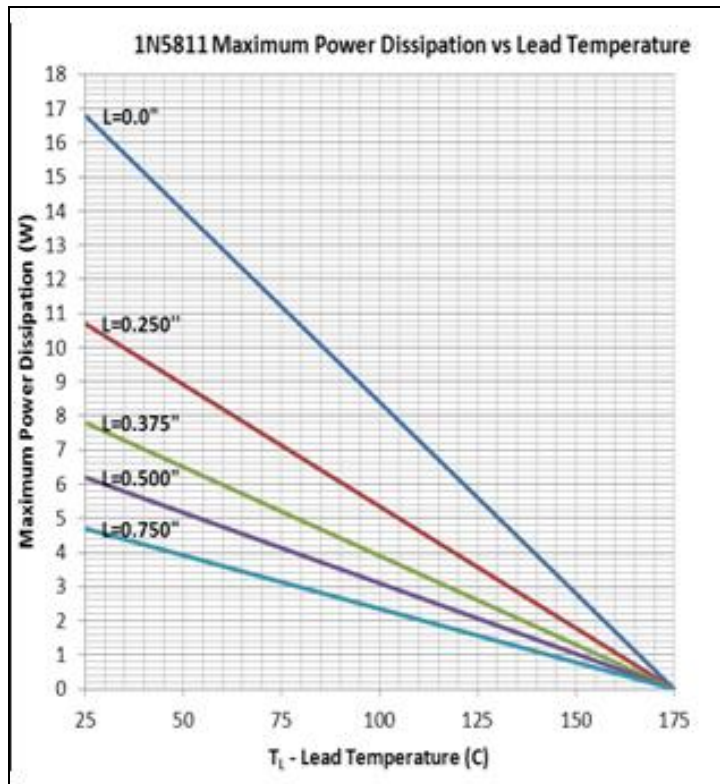
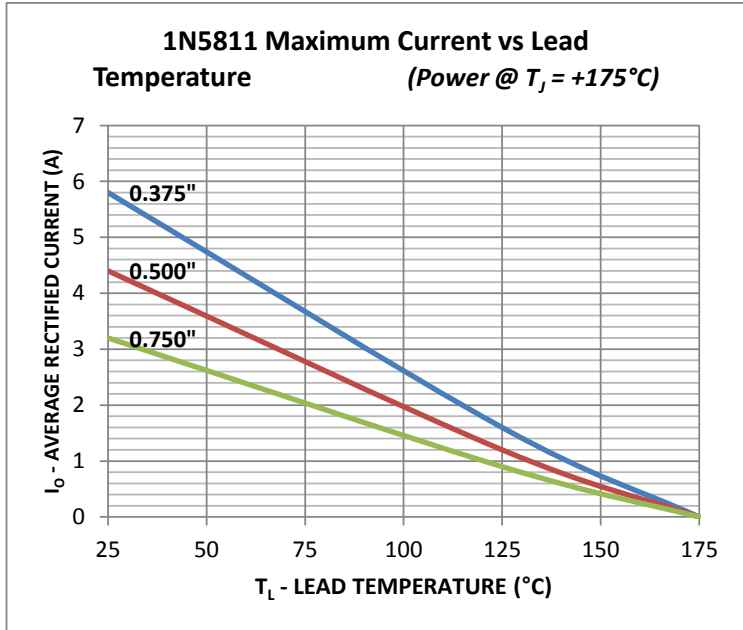


Note: Cathode side of device is indicated by a dark band marked on body.

PACKAGE STYLE	DIMENSIONS - INCHES / MILLIMETERS			
	A	B	C	D
MELF-B	.200/.225 5.0/5.8	0.019/.028 .48/.72	.003 Min .076 Min	.137/.148 3.4/3.8

TECHNICAL DATA
DATA SHEET 127, REV. H.6

GRAPHS:



TECHNICAL DATA
DATA SHEET 127, REV. H.6

PART ORDERING INFORMATION

The following part numbers can be purchased in either axial or surface mount devices and screened and tested to the military screening flow. The parts are marked in accordance with the testing performed, example:

**Available with silver leads (SS5811-AG).*

Sensitron Screening Level	*Part Number-- Leaded Package <i>(example for 1N5811)</i>	*Part Number-- Surface Mount Package <i>(example for 1N5811US)</i>
1N	1N5811	1N5811US
JAN	JAN1N5811	JAN1N5811US
JANTX	JANTX1N5811	JANTX1N5811US,
JANTXV	JANTXV1N5811	JANTXV1N5811US
SJ	SJ5811	SJ5811US
SX	SX5811	SX5811US
SV	SV5811	SV5811US
JANS	JANS1N5811	JANS1N5811US
SS	SS5811	SS5811US

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- 2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.
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