

Fast Recovery Rectifier

Qualified per MIL-PRF-19500/550

DESCRIPTION:

This hermetically sealed fast recovery rectifier diode series is targeted for space, commercial and military aircraft, military vehicles, shipboard markets and all high reliability applications.

✓ FEATURES / BENEFITS:

- ✓ Hermetic package
- ✓ All devices are 100% hot solder dipped
- ✓ JAN/ JANTX/ JANTXV available per MIL-PRF-19500/550

ELECTRICAL CHARACTERISTICS:

MAX. RATINGS / ELECTRICAL CHARACTERISTICS All ratings are at $T_A = 25^\circ\text{C}$ unless otherwise specified.

RATING	CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Voltage(V_R) 1N6304/R 1N6305/R 1N6306/R	-	-	-	50 100 150	V
Working Peak Reverse Voltage 1N6304/R 1N6305/R 1N6306/R		-	-	50 100 150	Volts (dc)
Average DC Output Current (I_o) ^{(1) (2)}	$T_C = +100^\circ\text{C}$	-	-	70	Amps
Peak Single Cycle Surge Current (I_{FSM})	$T_C = +55^\circ\text{C}$, $t_p = 8.3\text{ms}$	-	-	800	Amps(pk)
Reverse Recovery Time (t_{rr})		-	-	50	nsec
Forward Voltage (V_{FM})	$I_{FM} = 70\text{ A (pk)}$ duty cycle ≤ 2 percent $t_p = 300\text{ }\mu\text{s}$ max			0.975	V (pk)
Reverse Current (I_R)	At rated V_R			25	$\mu\text{A dc}$
Junction and Storage Temp. (T_J & T_{stg})	-	-65	-	+175	$^\circ\text{C}$
Thermal Resistance ($R_{\theta JC}$)		-	-	0.8	$^\circ\text{C/W}$

(1) Derate linearly, 875 mA/ $^\circ\text{C}$ from $T_C = +100^\circ\text{C}$ to $+150^\circ\text{C}$, and 1,050 mA/ $^\circ\text{C}$ above $T_C > +150^\circ\text{C}$.

(2) Higher I_o , up to 1.2 times I_o is allowable provided that appropriate heat sinking or forced air cooling maintains the maximum junction temperature at or below $+175^\circ\text{C}$ as proven by the junction temperature rise time

SENSITRON

SEMICONDUCTOR

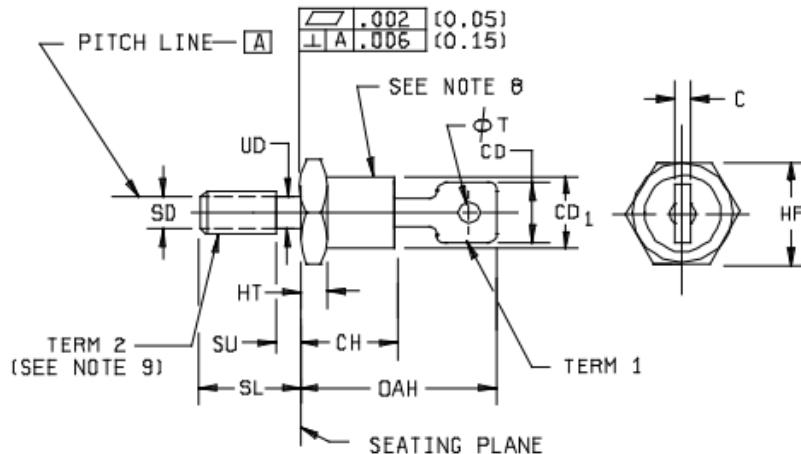
TECHNICAL DATA
DATA SHEET 6151, REV -

1N6304/R, 1N6305/R, 1N6306/R

FAST RECOVERY DIODE

AVAILABLE AS
1N, JAN, JANTX, JANTXV

PACKAGE DIMENSIONS (inches):



Ltr	Dimensions				Notes	
	Inches		Millimeters			
	Min	Max	Min	Max		
CD	.375		9.53		7	
C	.080		2.03			
HF	.669	.688	16.99	17.48		
HT	.115	.200	2.92	5.08		
CH	.450		11.43			
OAH	.750	1.000	19.05	25.40		
SL	.422	.453	10.72	11.51		
SU		.090		2.29	4	
CD ₁		.667		16.94		
SD					5	
UD	.220	.249	5.59	6.32		
OT	.140	.175	3.56	4.45		

NOTES:

- Dimensions are in inches.
- Millimeter equivalents are given for information only.
- Units must not be damaged by torque of 30 inch-pound applied to .25-28 UNF-2B nut assembled on thread.
- Length of incomplete or undercut threads of UD.
- Maximum pitch diameter of plated threads shall be basic pitch diameter .2268 inch (5.761 mm).
- A chamfer or undercut on one or both ends of the hex portion is optional; minimum base diameter at seating plane .60 inch (15.2 mm).
- The angular orientation and peripheral configuration of terminal 1 is undefined.
- Standard types shall have cathode connected to stud. Reverse types shall have anode connected to stud.
- Term 2 threads in accordance with FED-STD-H28.
- In accordance with ASME Y14.5, diameters are equivalent to ϕx symbology.

PKG: DO-203AB (DO-5)

PART ORDERING INFORMATION:

The following part numbers can be screened and tested to the military screening flow. The parts are marked in accordance with the testing performed, example:

Sensitron Screening Level	*Part Number-- example for 1N6304)
1N	1N6304
JAN	JAN1N6304
JANTX	JANTX1N6304
JANTXV	JANTXV1N6304

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