

V_F Controlled Diodes

Qualified per MIL-PRF-19500/241

DESCRIPTION:

This voidless hermetically sealed V_f controlled diode is military qualified per MIL-PRF-19500/241 and is targeted for space, commercial and military aircraft, military vehicles, shipboard markets and all 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-19500/241

MAXIMUM RATINGS:

- ✓ Operating and Storage Temperature: -65°C to +175°C
- ✓ Forward Voltage (max): 1Vdc @ 200mA, .92Vdc @ 100mA
- ✓ Reverse Leakage Current (max): 1 nAdc @ V_R

ELECTRICAL CHARACTERISTICS:

All ratings are at T_A = 25°C unless otherwise specified.

RATING	CONDITIONS	MIN	TYP	MAX	UNIT
Working Peak Reverse Voltage (V _{RWM})		125	-	-	V (pk)
Average Rectified Output Current (I _o)	T _A = 75°C	-	-	150	mA dc
Surge Peak Forward Current (I _{FSM}) @ T _A =25°C	t _p = 1s	-	-	500	mA (pk)
Thermal Resistance (R _{θJL})	L=.375 in	-	-	250	°C/W
Thermal Resistance (R _{θJC})	L=0	-	-	40	°C/W
Thermal Resistance (R _{θJX})				245	°C/W
Junction Temperature (T _J)	-	-65	-	+175	°C
Storage Temp. (T _{stg})	-	-65	-	+175	°C

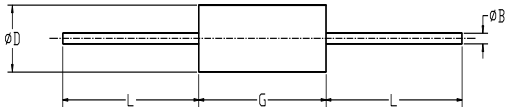
TECHNICAL DATA
DATA SHEET 5086, REV. A.2

CHARACTERISTIC	CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	V_{F1} at $I_{F1} = 200$ mA dc	0.83		1.0	V
	V_{F2} at $I_{F2} = 100$ mA dc	0.79		0.92	
	V_{F3} at $I_{F3} = 50$ mA dc	0.74	-	0.88	
	V_{F4} at $I_{F4} = 10$ mA dc	0.65		0.80	
	V_{F5} at $I_{F5} = 5$ mA dc	0.60		0.765	
	V_{F6} at $I_{F6} = 1$ mA dc	0.52		0.70	
Maximum Reverse Leakage Current	I_{RM1} @ V_{RWM}	-	-	1	nA dc
	I_{RM2} @ V_{RWM} , $T_A = 150$ °C			3	µA
Breakdown Voltage (BV_R)	$I_R = 100\mu A$, $T_A = -55$ °C	150	-	-	V
Junction Capacitance (C_J)	$V_R = 0V_{dc}$, $f = 1MHz$	-	-	8.0	pF

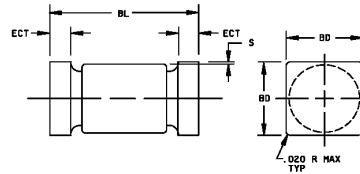
*Sensitron **space equivalent diodes** are manufactured and screened to MIL-PRF-19500 flow and guidelines starting from wafer fabrication through assembly and testing using our internal specification.

PACKAGE DIMENSIONS (inches/mm)

AXIAL



MELF (Add "US")



1N3595-1

PACKAGE STYLE	DIMENSIONS - INCHES (MILLIMETERS)			
	ϕB	ϕD	G	L
DO-35	.018/.022 0.46/0.56	.056/.075 1.42/1.91	.140/.180 3.56/4.57	1.00/1.5 25.4/38.10

1N3595US

PACKAGE STYLE	DIMENSIONS - INCHES (MILLIMETERS)			
	BL	BD	S	ECT
D-5D	.165/.195 4.19/4.95	.070/.085 1.78/2.16	0.003 Min	.019/.028 0.48/0.71

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:

Sensitron Screening Level	*Part Number-- Leaded Package (example for 1N3595-1)	*Part Number-- Surface Mount Package (example for 1N3595US)
1N	1N3595-1	1N3595US
JAN	JAN1N3595-1	JAN1N3595US
SJ	SJ3595-1	SJ3595US
JANTX	JANTX1N3595-1	JANTX1N3595US
SX	SX3595-1	SX3595US
JANTXV	JANTXV1N3595-1	JANTXV1N3595US
SV	SV3595-1	SV3595US
JANS	JANS1N3595-1	JANS1N3595US
SS	SS3595-1	SS3595US

*Parts can also be ordered Tape & Reel

SENSITRON
SEMICONDUCTOR

1N3595-1, 1N3595US

VF CONTROLLED DIODE

TECHNICAL DATA
DATA SHEET 5086, REV. A.2

DISCLAIMER:

1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the Sensitron Semiconductor sales department for the latest version of the datasheet(s).

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.

3- In no event shall Sensitron Semiconductor be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). Sensitron Semiconductor assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.

4- In no event shall Sensitron Semiconductor be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.

5- No license is granted by the datasheet(s) under any patents or other rights of any third party or Sensitron Semiconductor.

6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of Sensitron Semiconductor.

7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations.