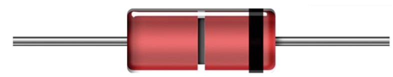
1N3595-1, 1N3595A-1

Low Leakage Controlled Forward Voltage Diode

Rev. V1

Features

- Available in JAN, JANTX and JANTXV per MIL-PRF-19500/241
- Metallurgically Bonded
- Hermetically Sealed
- Double Plug Construction
- Non Cavity Hard Glass Package



DC Electrical Characteristics T_A = +25°C (unless otherwise specified)

Parameter	Test Conditions	Symbol	Units	Min.	Max.
Forward Voltage	I_F = 200 mA dc	V_{F1}	V dc	.83	1.00
Forward Voltage	I_F = 100 mA dc	V_{F2}	V dc	.79	.92
Forward Voltage	I_F = 50 mA dc	V_{F3}	V dc	.74	.88
Forward Voltage	I_F = 10 mA dc	V_{F4}	V dc	.65	.80
Forward Voltage	I_F = 5 mA dc	V_{F5}	V dc	.60	.765
Forward Voltage	I_F = 1 mA dc	V_{F6}	V dc	.52	.70
Reverse Current Leakage (1N3595-1)	V_R = 125 V dc	I_{R1}	nA dc	—	1.0
Reverse Current Leakage (1N3595A-1)	V_R = 125 V dc	I_{R1}	nA dc	—	2.0
Reverse Current Leakage	T_A = +150°C; V_R = 125 V dc	I_{R2}	µA dc	—	3.0
Breakdown Voltage	T_A = -55°C; I_R = 100 µA dc	$V_{(BR)}$	V dc	150	—
Capacitance	V_R = 0 V dc; f = 1 MHz	C	pF	—	8.0
Reverse Recovery Time	I_F = 10 mA dc; V_R = 35 V dc; R = 1,000 Ω; .6 µF	t_{rr}	µs	—	3

Absolute Maximum Ratings (T_A = +25°C unless otherwise specified)

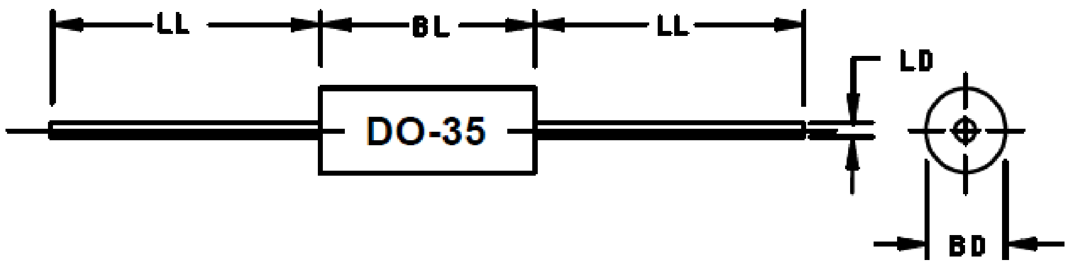
Parameter	Symbol	Absolute Maximum
Working Voltage	V_{RWM}	125 V (pk)
Average Rectified Output Current [1]	I_O	150 mA dc
Forward Surge Current (t_p = 1 s)	I_{FSM}	500 mA (pk)
Forward Surge Current (t_p = 1 μs)	I_{FSM}	4 A (pk)
Junction Temperature	T_J	-65°C to +175°C
Storage Temperature	T_{STG}	-65°C to +175°C

Thermal Characteristics (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Absolute Maximum
Thermal Resistance Junction to Lead (L= .375 inch, 9.53 mm)	$R_{\theta JL}$	250°C/W
Thermal Resistance Junction to Ambient (PCB)	$R_{\theta JA}$	275°C/W

(1) For temperature-current derating curves, see figure 9.

Outline Drawings (DO-35)

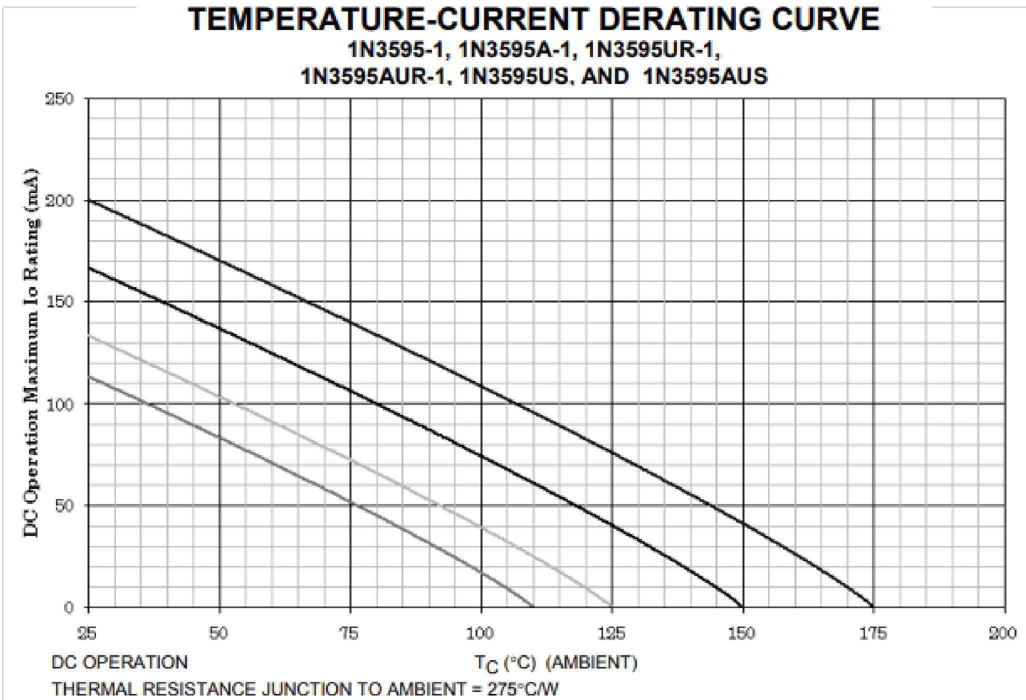


Ltr	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	.056	.075	1.42	1.91
BL	.140	.180	3.56	4.57
LD	.018	.022	0.46	0.56
LL	1.000	1.500	25.40	38.10

NOTES:
1. Dimensions are in inches.
2. Millimeters are given for general information only.
3. In accordance with ASME Y14.5, diameters are equivalent to Φx symbology.
4. Dimensions are pre-solder dip.

FIGURE 1. Physical dimensions - 1N3595-1, 1N3595A-1 (DO-35).

Temperature-Current Derating Curve



NOTES:

1. This is the true inverse of the worst case thermal resistance value. All devices are capable of operating at ≤ T_J specified on this curve. Any parallel line to this curve will intersect the appropriate power for the desired maximum T_J allowed.
2. Derate design curve constrained by the maximum junction temperature (T_J ≤ 175°C) and power/current rating specified. (See 1.3 herein.)
3. Derate design curve chosen at T_J ≤ 150°C, where the maximum temperature of electrical test is performed.
4. Derate design curves chosen at T_J ≤ 125°C, and 110°C to show power/current rating where most users want to limit T_J in their application.

FIGURE 9. Temperature-current derating graph.