



SOLID STATE INC.

46 FARRAND STREET
BLOOMFIELD, NEW JERSEY 07003

www.solidstateinc.com

IN3615 SERIES

medium power silicon rectifiers

16 Amp DO-4 Rectifiers

- Voltage ratings from 50 to 1,000 volts
- High surge current capability
- Low thermal impedance
- High temperature rating

ELECTRICAL SPECIFICATIONS

| Series | 1N3615 to 1N3624 | Conditions |
|--|------------------|--|
| $I_F(AV)$ Max. average forward current | 16A* | 1 phase operation, $T_C = 150^\circ\text{C}$ |
| $I_{FM}(\text{surge})$ Max. peak one cycle, non-repetitive surge current | 300A* | 60 Hz half sine wave, following any rated load condition |
| V_{FM} Max. peak forward voltage drop | 1.2V* | Rated $I_F(AV)$ (50A peak) $T_C = 150^\circ\text{C}$ |

THERMAL-MECHANICAL SPECIFICATIONS

| | | |
|---|--------------------------------------|--|
| T_J Max. operating junction temperature range | -65° to 200°C^* | |
| T_{stg} Max. storage temperature range | -65° to 200°C^* | |
| $R_{\theta JC}$ Max. thermal resistance, junction-to-case | $1^\circ\text{C}/\text{W}$ | Dc operation |
| $R_{\theta CS}$ Thermal resistance, case to sink | $0.60^\circ\text{C}/\text{W}$ | Mounting surface flat, smooth, and greased |
| Mounting torque | Min. 12 lb-in. Max. 15 lb-in. | Non-lubricated threads |
| Approximate weight | $1/4$ oz. | |

*JEDEC registered values

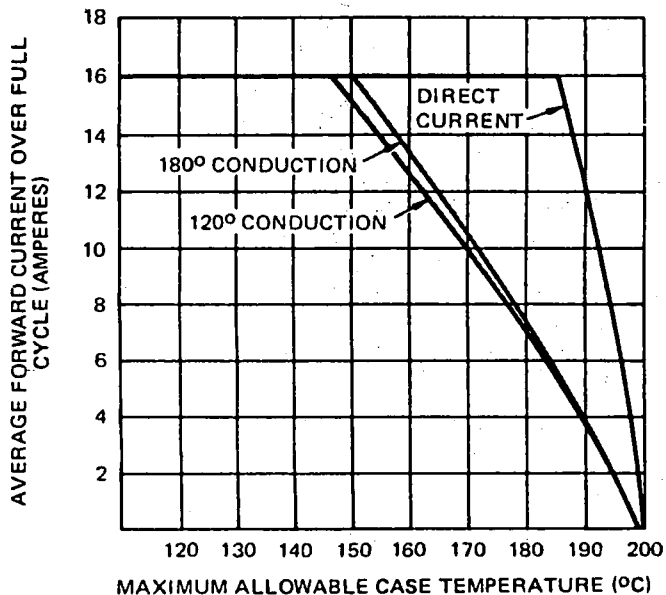


Fig. 1 – Average Forward Current Vs Case Temperature (Resistive Load)

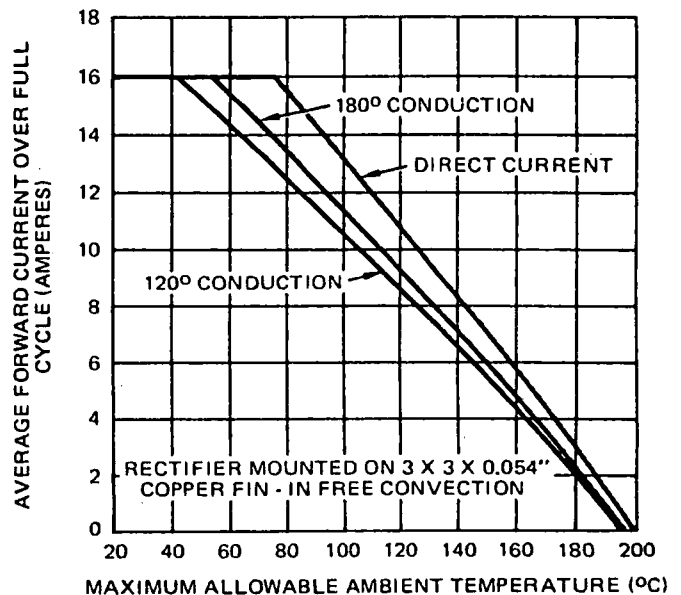


Fig. 2 – Average Forward Current Vs Ambient Temperature (Resistive Load)

VOLTAGE RATINGS

| PART NUMBER ① | VRM(REP) MAX. REPETITIVE PEAK REVERSE VOLTAGE (V) | VRM(NON-REP) MAX. NON-REPETITIVE PEAK REVERSE VOLTAGE (V) | VR(RMS) MAX. RMS INPUT VOLTAGE (V) | VR MAX. DC BLOCKING VOLTAGE (V) | IR(AV) MAX. AVERAGE REVERSE CURRENT @ MAX. RATED IF(AV) AND VRM(REP), TC = 150°C (1 PHASE OPERATION) (mA) |
|------------------|---|--|--|---|---|
| 1N3615 | 50* | 100* | 35* | 50* | 3 * |
| 1N3616 | 100* | 200* | 70* | 100* | 2.5 * |
| 1N3617 | 150* | 300* | 105* | 150* | 2.25* |
| 1N3618 | 200* | 350* | 140* | 200* | 2 * |
| 1N3619 | 300* | 500* | 210* | 300* | 1.75* |
| 1N3620 | 400* | 600* | 280* | 400* | 1.5 * |
| 1N3621 | 500* | 700* | 350* | 500* | 1.25* |
| 1N3622 | 600* | 800* | 420* | 600* | 1.0 * |
| 1N3623 | 800* | 1000* | 560* | 800* | 0.75* |
| 1N3624 | 1000* | 1200* | 700* | 1000* | 0.6 * |

① Cathode-to-case. For anode-to-case add suffix "R" to part number, i.e. 1N3615R.

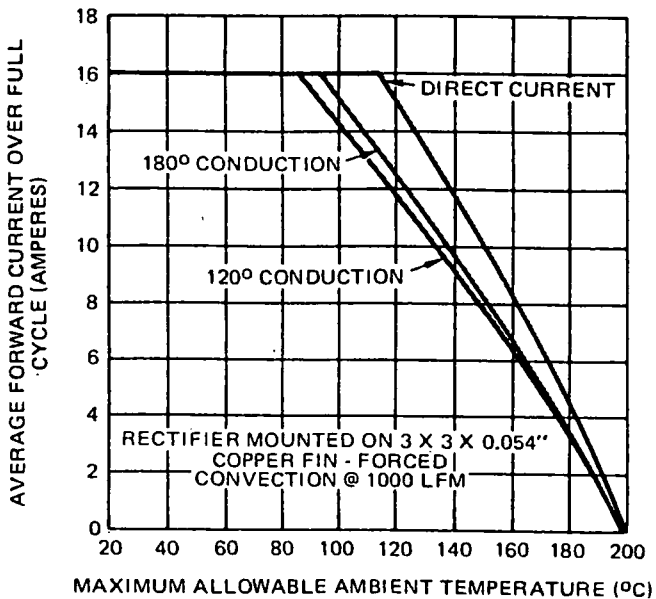


Fig. 3 – Average Forward Current Vs Ambient Temperature (Resistive Load)

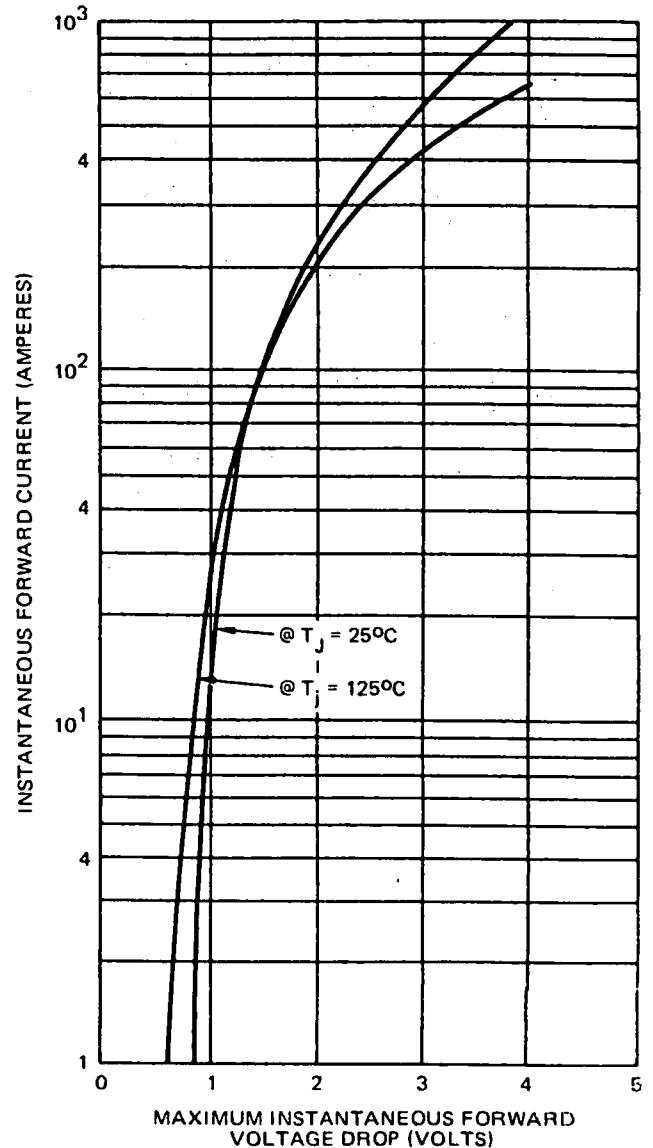


Fig. 4 – Maximum Forward Voltage Drop Vs Forward Current



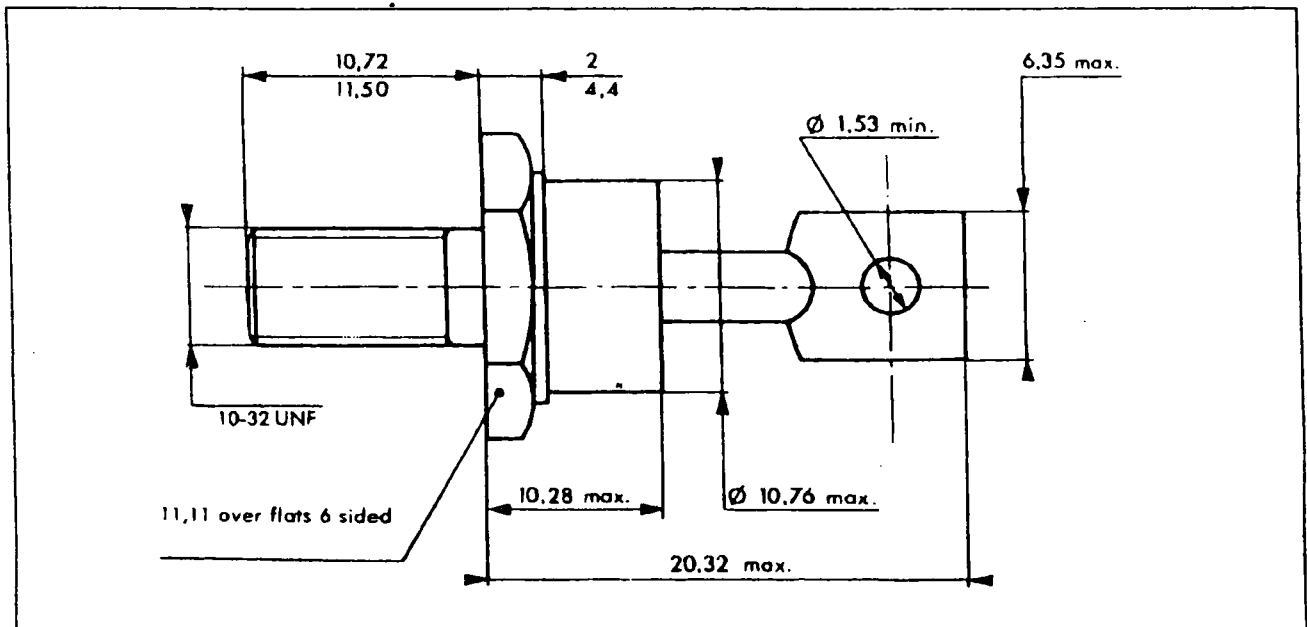
SOLID STATE INC.

46 FARRAND STREET
BLOOMFIELD, NEW JERSEY 07003

www.solidstateinc.com

PACKAGE MECHANICAL DATA

DO 4 Metal



Marking : Cathode connected to case : type number
Anode connected to case : type number + suffix R