



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
 Phone: (562) 404-4474 * Fax: (562) 404-1773
 ssdi@ssdi-power.com * www.ssdi-power.com

1N6690-1N6693 and 1N6690US-1N6693US

20 AMP
600-1200 Volts
75 nsec
ULTRA FAST RECTIFIER

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

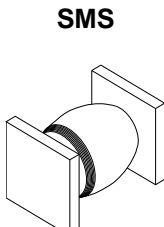
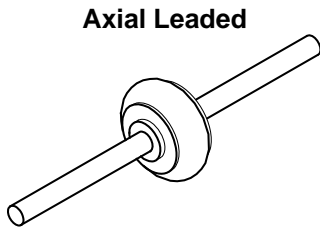
1N66 _____

- L **Screening**^{2/} = None
 TX = TX Level
 TXV = TXV Level
 S = S Level
- L **Package** _____ = Axial
 SMS = Surface Mount Square Tab
- L **Voltage**
 90 = 600 V
 91 = 800 V
 92 = 1000 V
 93 = 1200 V

- Features:**
- Replaces DO-4 and DO-5
 - Ultra Fast Recovery
 - PIV to 1200 Volts
 - Low Reverse Leakage
 - Hermetically Sealed Void-Free Construction^{3/}
 - Monolithic Single Chip Construction
 - High Surge Rating
 - Low Thermal Resistance
 - Available in Surface Mount Versions (-US Suffix) and in Button Tab Mounting (See Data Sheet RU0129).
 - TX, TXV, and S-Level Screening Available^{2/}

| Maximum Ratings | Symbol | Value | Units |
|---|--|---------------------------------|--|
| Peak Repetitive Reverse and DC Blocking Voltage | 1N6690 & 1N6690US 1N6691 & 1N6691US 1N6692 & 1N6692US 1N6693 & 1N6693US | V_{RRM} V_{RWM} V_R | 600 800 1000 1200 Volts |
| Average Rectified Forward Current (Resistive Load, 60 Hz Sine Wave, T _A = 100°C) | I_o | 20 | Amps |
| Repetitive Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on I _o , Allow Junction to Reach Equilibrium Between Pulses, T _A = 25°C) | I_{FSM} | 375 | Amps |
| Operating & Storage Temperature | Top & Tstg | -65 to +175 | °C |
| Maximum Thermal Resistance Junction to Leads, L = 3/8" Junction to End Tab | $R_{\theta JL}$ $R_{\theta JE}$ | 3.0 2.5 | °C/W |

Notes:
 1/ For Ordering Information, Price, Operating Curves, and Availability – Contact Factory.
 2/ Screening Based on MIL-PRF-19500. Specifics Available on Request.
 3/ PIND Testing not Required on Void Free Devices per MIL-PRF-19500.





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**1N6690-1N6693
 and
 1N6690US-1N6693US**

| Electrical Characteristics | | Symbol | Max | Units |
|---|---------------------------|----------|-----|---------------|
| Instantaneous Forward Voltage Drop ($I_F = 20 \text{ Adc}$, 300-500 μs pulse) | $T_A = 25^\circ\text{C}$ | V_{F1} | 1.9 | Vdc |
| | $T_A = -55^\circ\text{C}$ | V_{F2} | 2.2 | |
| Reverse Leakage Current (Rated V_R , 300 μs pulse minimum) | $T_A = 25^\circ\text{C}$ | I_{R1} | 10 | μA |
| | $T_A = 100^\circ\text{C}$ | I_{R2} | 2.0 | mA |
| Junction Capacitance ($V_R = 10 \text{ Vdc}$, $T_A = 25^\circ\text{C}$, $f = 1\text{MHz}$) | | C_J | 250 | pF |
| Reverse Recovery Time ($I_F = 500 \text{ mA}$, $I_R = 1\text{A}$, $I_{RR} = 250\text{mA}$, $T_A = 25^\circ\text{C}$) | | t_{rr} | 75 | nsec |

