

SDR943/61 THRU SDR946/61

40 AMP

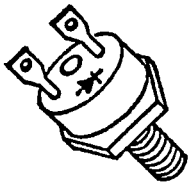
ULTRA FAST RECOVERY RECTIFIER

300-600 VOLTS



14830 Valley View Avenue
La Mirada, California 90638
(213) 921-9660
TWX 910-583-4807
FAX 213-921-2396

CASE STYLE T
2 PIN TO-61



FEATURES

- ISOLATED PACKAGE
- ULTRA FAST RECOVERY 80 NSEC MAX
- REVERSE VOLTAGE TO 600 VOLTS
- LOW REVERSE LEAKAGE
- HERMETICALLY SEALED
- SINGLE CHIP CONSTRUCTION
- 200°C OPERATING, GOLD EUTECTIC DIE ATTACH, ULTRASONIC ALUMINUM WIRE BONDS
- MILITARY GRADE REPLACEMENT FOR COMMERCIAL DO-5

MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|---|-------------------------|--------------------------|-------|
| Peak Repetitive Reverse Voltage and DC Blocking Voltage (IR = 100uA) | $V_{RM (rep)}$ V_R | 300 400 500 600 | Volts |
| RMS Reverse Voltage | V_r | 210 280 350 420 | Volts |
| Half Wave Rectified Forward Current, Averaged Over Full Cycle (Resistive Load, 60Hz, Sine Wave, $T_C = 55^\circ C$) | I_0 | 40 | Amps |
| Peak Repetitive Forward Current ($T_C = 55^\circ C$, 8.3 ms Pulse, Allow Junction to Reach Equilibrium Between Pulses) | $I_{FM (rep)}$ | 150 | Amps |
| Peak Surge Current ($T_C = 55^\circ C$, Superimposed on Rated Current at Rated Voltage, 8.3 ms Pulse) | $I_{FM (surge)}$ | 375 | Amps |
| Operating and Storage Temperature | T_J, T_{stg} | -65 to 200 | °C |

THERMAL CHARACTERISTICS

| Characteristics | Symbol | Max | Unit |
|--------------------------------------|-----------------|-----|------|
| Thermal Resistance, Junction to Case | $R_{\theta JC}$ | 1.0 | °C/W |

ELECTRICAL CHARACTERISTICS

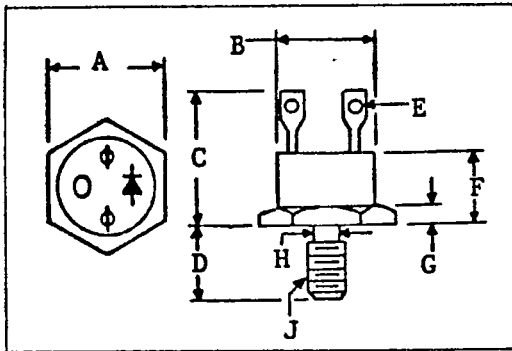
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| Characteristics | Symbol | Value | Unit |
|--|-------------|-------|-----------------|
| Max Full Cycle Forward Voltage Drop, Averaged Over Full Cycle. (I_O (Max), 60 Hz Square Wave, $T_C = 55^\circ\text{C}$) | $V_{F(AV)}$ | 0.85 | Vdc |
| Max Instantaneous Forward Drop ($I_F = 40$ Adc, $T_C = 25^\circ\text{C}$, 300 μs Pulse) | V_F | 1.7 | Vdc |
| Max Reverse Leakage Current $T_C = 100^\circ\text{C}$ | $I_{R(AV)}$ | 5.0 | mAdc |
| Max Reverse Leakage Current ($T_C = 25^\circ\text{C}$) | I_R | 50 | μAdc |
| Max Junction Capacitance ($V_R = 10$ V, $T_C = 25^\circ\text{C}$) | C_J | 350 | pf |

REVERSE RECOVERY CHARACTERISTICS

| Characteristics | Symbol | Min | Typ | Max | Unit |
|---|----------|-----|-----|-----|------|
| Reverse Recovery Time ($I_F = 500\text{ma}$, $I_R = 1\text{A}$, $I_{RR} = 250\text{ma}$) | t_{rr} | - | 60 | 80 | ns |

PHYSICAL DIMENSIONS



KEY TO DIMENSIONS:

- (Inches)
- A = .667 - .687
 - B = .570 - .610
 - C = .640 - .875
 - D = .422 - .455
 - E = .047 - .072 (Diameter)
 - F = .325 - .460
 - G = .090 - .150
 - H = .220 - .249 (Diameter)
 - J = $\frac{1}{4}$ - 28 UNF-2A

TYPICAL OPERATING CURVES

