

POWER SCHOTTKY RECTIFIERS

60A Pk, Up to 45V

USD3030S
USD3040S
USD3045S

2

FEATURES

- Economical Convenient TO-3P Package
- Insulated Mounting Hole
- Can Be Clip Mounted
- Mechanically Rugged
- Low Thermal Resistance
- Extremely Low V_f

DESCRIPTION

The USD3030S Series, in the economical, convenient TO-3P package, is specifically designed for operation in power switching circuits to frequencies in excess of 100KHz. The very low forward voltage and low recovered charge translates to extremely high efficiency making them particularly suited for low voltage switching type power supplies.

ABSOLUTE MAXIMUM RATINGS

| | USD3030S | USD3040S | USD3045S |
|---|-----------------|-----------------|-----------------|
| Working Peak Reverse Voltage | 30V | 40V | 45V |
| D.C. Blocking Voltage | 30V | 40V | 45V |
| Peak Repetitive Surge Voltage | 36V | 48V | 54V |
| Maximum Average D.C. Output Current @ $T_C = 115^\circ\text{C}$ | 30A | 30A | 30A |
| Non-Repetitive Sinusoidal Surge Current, 0.3ms | 450A | 450A | 450A |
| Peak Reverse Transient Current | 2A | 2A | 2A |
| Thermal Resistance Junction to Case | 1.5°C/W | 1.5°C/W | 1.5°C/W |
| Thermal Resistance Junction to Ambient | 40°C/W | 40°C/W | 40°C/W |
| Operating and Storage Temperature Range | -55°C to +150°C | -55°C to +150°C | -55°C to +150°C |

ELECTRICAL SPECIFICATIONS

| Type | V_{RWM} | Maximum Forward Voltage (V_f) | | Maximum Reverse Current (I_R) @ V_{RWM} | | Maximum Capacitance C_T at $V_R = 5.0V$ | Voltage Rate of Change (dv/dt) |
|----------|-----------|-----------------------------------|---------------------------|---|---------------------------|---|--------------------------------|
| | | $T_J = 25^\circ\text{C}$ | $T_J = 125^\circ\text{C}$ | $T_J = 25^\circ\text{C}$ | $T_J = 125^\circ\text{C}$ | | |
| USD3030S | 30V | .75 @ 30A | .70 @ 30A | 20mA | 50mA | 2000pF | 1000V/ μs |
| USD3040S | 40V | .93 @ 60A | .85 @ 60A | | | | |
| USD3045S | 45V | | | | | | |

MECHANICAL SPECIFICATIONS

PIN 1 CATHODE 1
PIN 2 ANODE

1. Mounting surface common to cathode

| INCHES | | |
|--------|-----------|------|
| DIM. | MIN. | MAX. |
| A | .620 | .640 |
| B | .825 | .845 |
| C | .060 | .080 |
| D | .780 | .800 |
| E | .087 | .102 |
| F | .019 | .029 |
| G | .150 | .170 |
| H | .212 | .222 |
| J | .140 | .144 |
| K | .042 | .052 |
| L | .074 | .084 |
| N | .430 Nom. | |

TO-3P

