

**Pb Free Plating Product**

ESAD39-02C/ESAD39-04C/ESAD39-06C



10 Ampere Heatsink Common Cathode Ultra Fast Recovery Half Bridge Rectifiers

**Features**

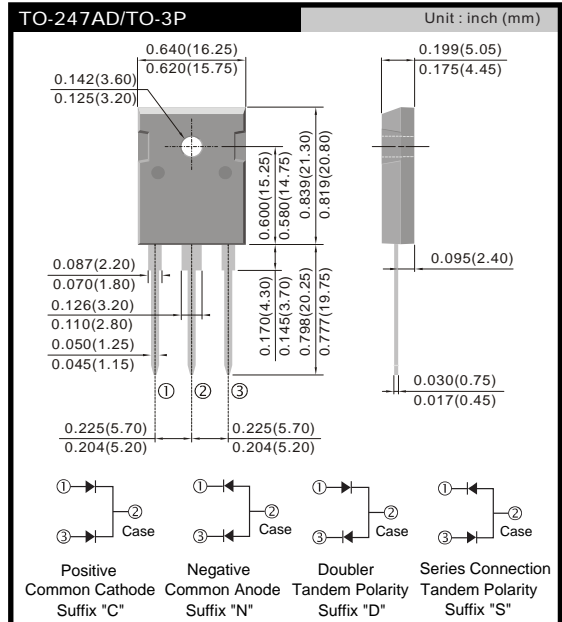
- ★ Latest GPP technology with super fast recovery time
- ★ Low forward voltage drop
- ★ Glass passivated with high current capability
- ★ Low reverse leakage current
- ★ High surge current capability

**Application**

- ★ Automotive Inverters/Solar Inverters
- ★ Plating Power Supply, SMPS, Motor Control and UPS
- ★ Car Audio Amplifiers and Sound Device Systems

**Mechanical Data**

- ★ Case: Heatsink TO-3P/TO-247AD
- ★ Epoxy: UL 94V-0 rate flame retardant
- ★ Terminals: Solderable per MIL-STD-202 method 208
- ★ Polarity: As marked on diode body
- ★ Mounting position: Any
- ★ Weight: 5.6 gram approximately



**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

|   | SYMBOL   | ESAD39-02C  | ESAD39-04C | ESAD39-06C | UNIT |
|---|----------|-------------|------------|------------|------|
| Maximum Recurrent Peak Reverse Voltage  | VRRM     | 200         | 400        | 600        | V    |
| Maximum RMS Voltage   | VRMS     | 140         | 280        | 420        | V    |
| Maximum DC Blocking Voltage   | VDC      | 200         | 400        | 600        | V    |
| Maximum Average Forward Rectified Current Tc=100°C  | IF(AV)   | 10.0        |            |            | A    |
| Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method) | IFSM     | 100         |            |            | A    |
| Maximum Instantaneous Forward Voltage @ 5.0 A   | VF       | 0.98        | 1.3        | 1.7        | V    |
| Maximum DC Reverse Current @Tj=25°C At Rated DC Blocking Voltage @Tj=125°C                        | IR       | 5.0         |            |            | uA   |
|   |          | 100         |            |            | uA   |
| Maximum Reverse Recovery Time (Note 1)  | Trr      | 35          |            |            | nS   |
| Typical junction Capacitance (Note 2)   | CJ       | 65          |            |            | pF   |
| Typical Thermal Resistance (Note 3)   | RθJC     | 2.2         |            |            | °C/W |
| Operating Junction and Storage Temperature Range  | TJ, TSTG | -55 to +150 |            |            | °C   |

NOTES : (1) Reverse recovery test conditions IF = 0.5A, IR = 1.0A, Irr = 0.25A.  
 (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts DC.  
 (3) Thermal Resistance junction to case.

FIG.1 - FORWARD CURRENT DERATING CURVE

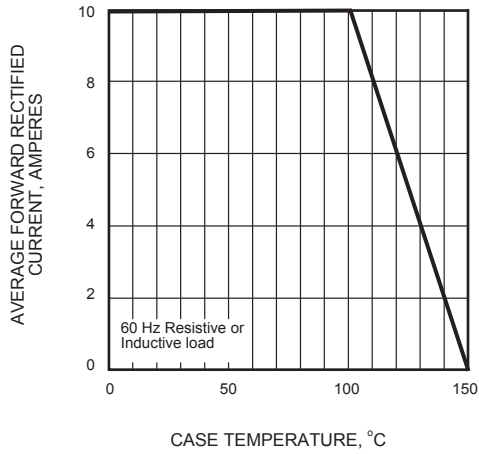


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

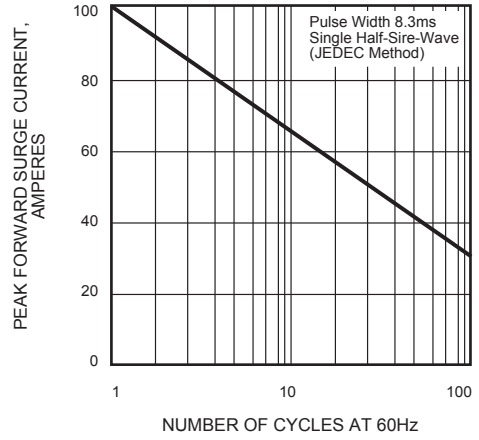


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

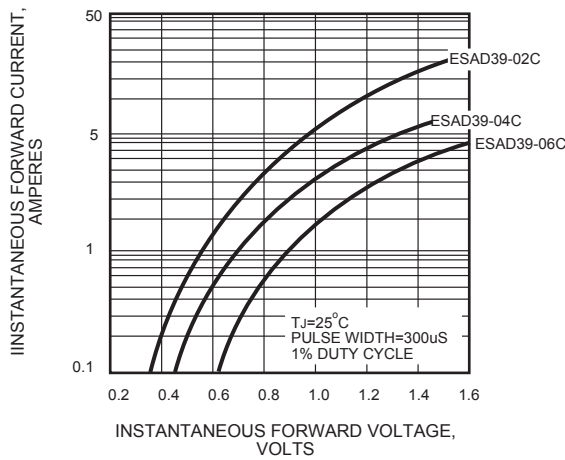


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

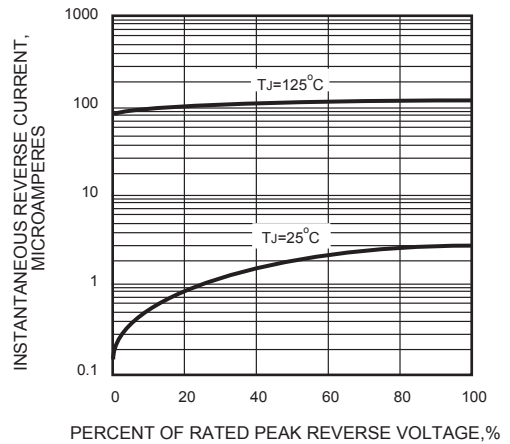


FIG.5 - TYPICAL JUNCTION CAPACITANCE

