

CURRENT 20 Ampere  
 VOLTAGE RANG 200 to 1000 Volts

## MUR2020PT THRU MUR20100PTR

### Features

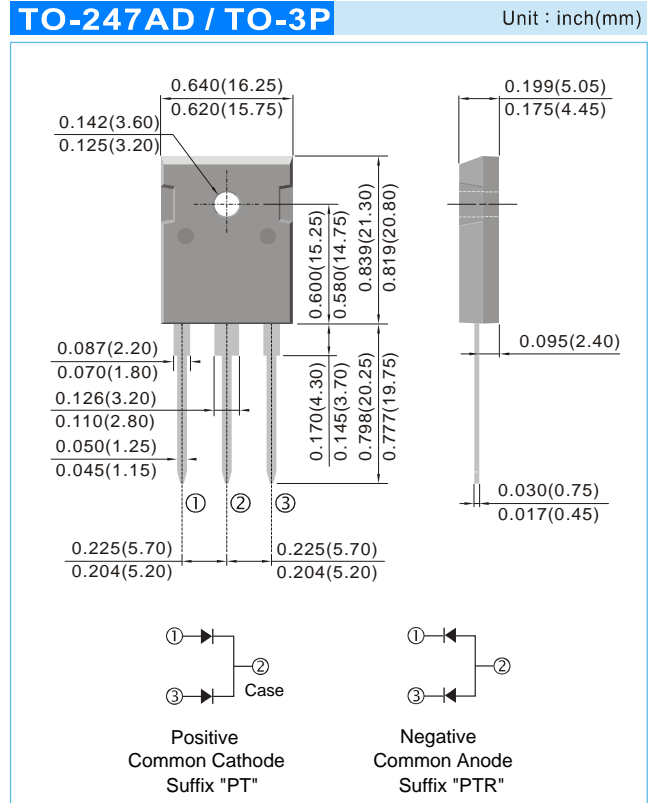
- \* Fast switching for high efficiency
- \* Low forward voltage drop
- \* High current capability
- \* Low reverse leakage current
- \* High surge current capability

### Application

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

### Mechanical Data

- \* Case: Heatsink TO-247AD/247S/3P open metal package
- \* 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: 0.65 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   | MUR 2020PT/R | MUR 2040PT/R | MUR 2060PT/R | MUR 2080PT/R | MUR 20100PT/R | UNIT     |
|---|----------|--------------|--------------|--------------|--------------|---------------|----------|
| Maximum Recurrent Peak Reverse Voltage  | VRRM     | 200          | 400          | 600          | 800          | 1000          | V        |
| Maximum RMS Voltage   | VRMS     | 140          | 280          | 420          | 560          | 700           | V        |
| Maximum DC Blocking Voltage   | VDC      | 200          | 400          | 600          | 800          | 1000          | V        |
| Maximum Average Forward Rectified Current Tc=125°C (Total Device 2x10A=20A)                       | IF(AV)   | 20.0         |              |              |              |               | A        |
| Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method) | IFSM     | 200          |              |              |              |               | A        |
| Maximum Instantaneous Forward Voltage @ 10.0 A (Per Diode/Per Leg)                                | VF       | 0.98         | 1.3          | 1.5          | 1.7          | 1.9           | V        |
| Maximum DC Reverse Current @Tj=25°C At Rated DC Blocking Voltage @Tj=125°C                        | IR       | 10<br>500    |              |              |              |               | uA<br>uA |
| Maximum Reverse Recovery Time (Note 1)  | Trr      | 35           |              |              | 50           |               | nS       |
| Typical junction Capacitance (Note 2)   | CJ       | 85           |              |              |              |               | pF       |
| Operating Junction and Storage Temperature Range  | TJ, TSTG | -55 to +150  |              |              |              |               | °C       |

NOTES : (1) Reverse recovery test conditions  $I_F = 0.5A$   $I_R = 1.0A$   $I_{rr} = 0.25A$ .  
 (2) Thermal Resistance junction to terminal.  
 (3) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts DC.

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**RATING AND CHARACTERISTIC CURVES**

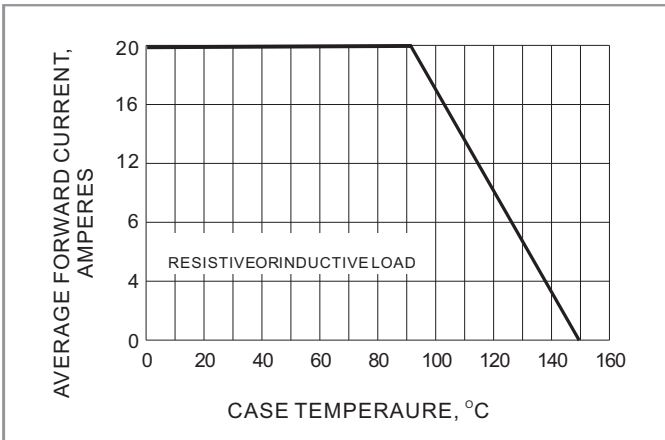


Fig.1- FORWARD CURRENT DERATING CURVE

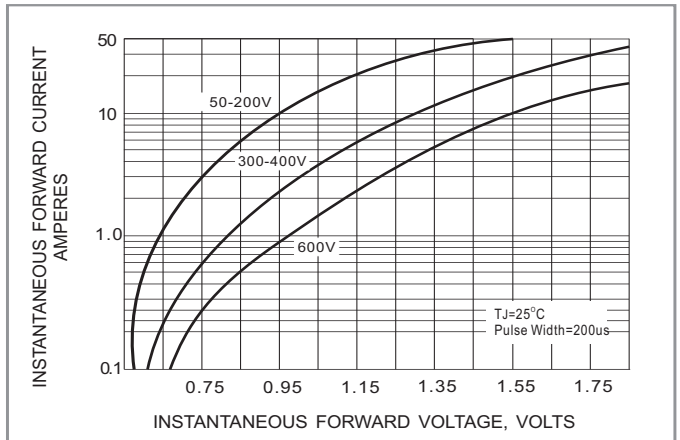


Fig.2- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

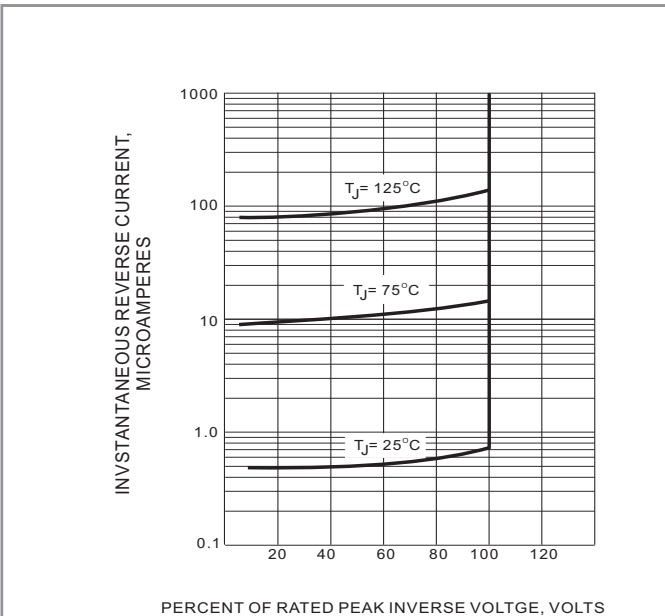


FIG.3 TYPICAL REVERSE CHARACTERISTICS

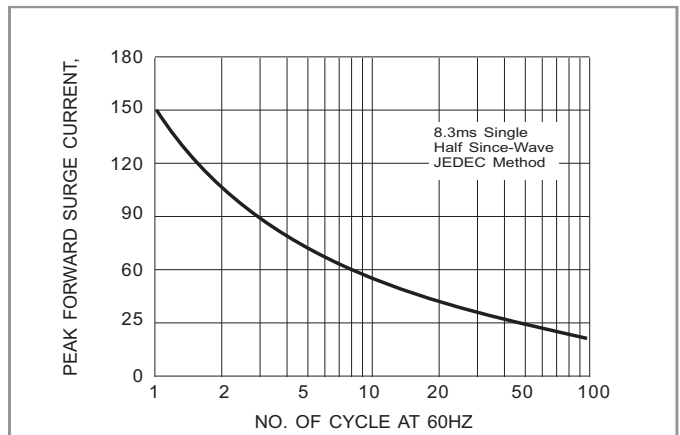


Fig.4- MAXIMUM NON-REPETITIVE SURGE CURRENT

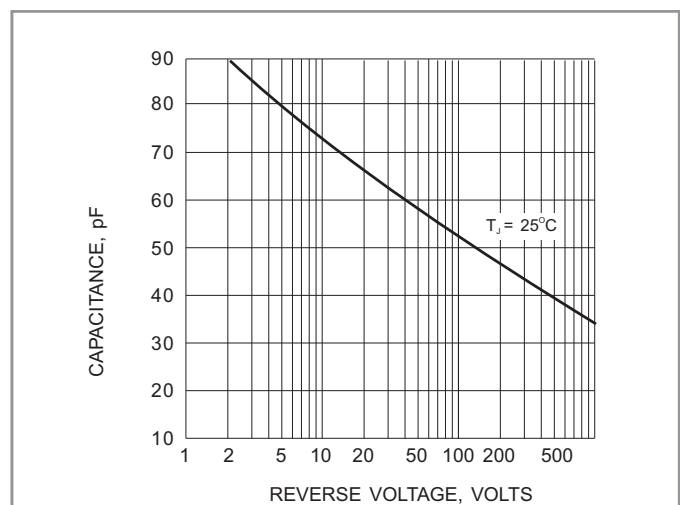
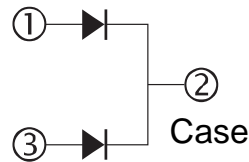
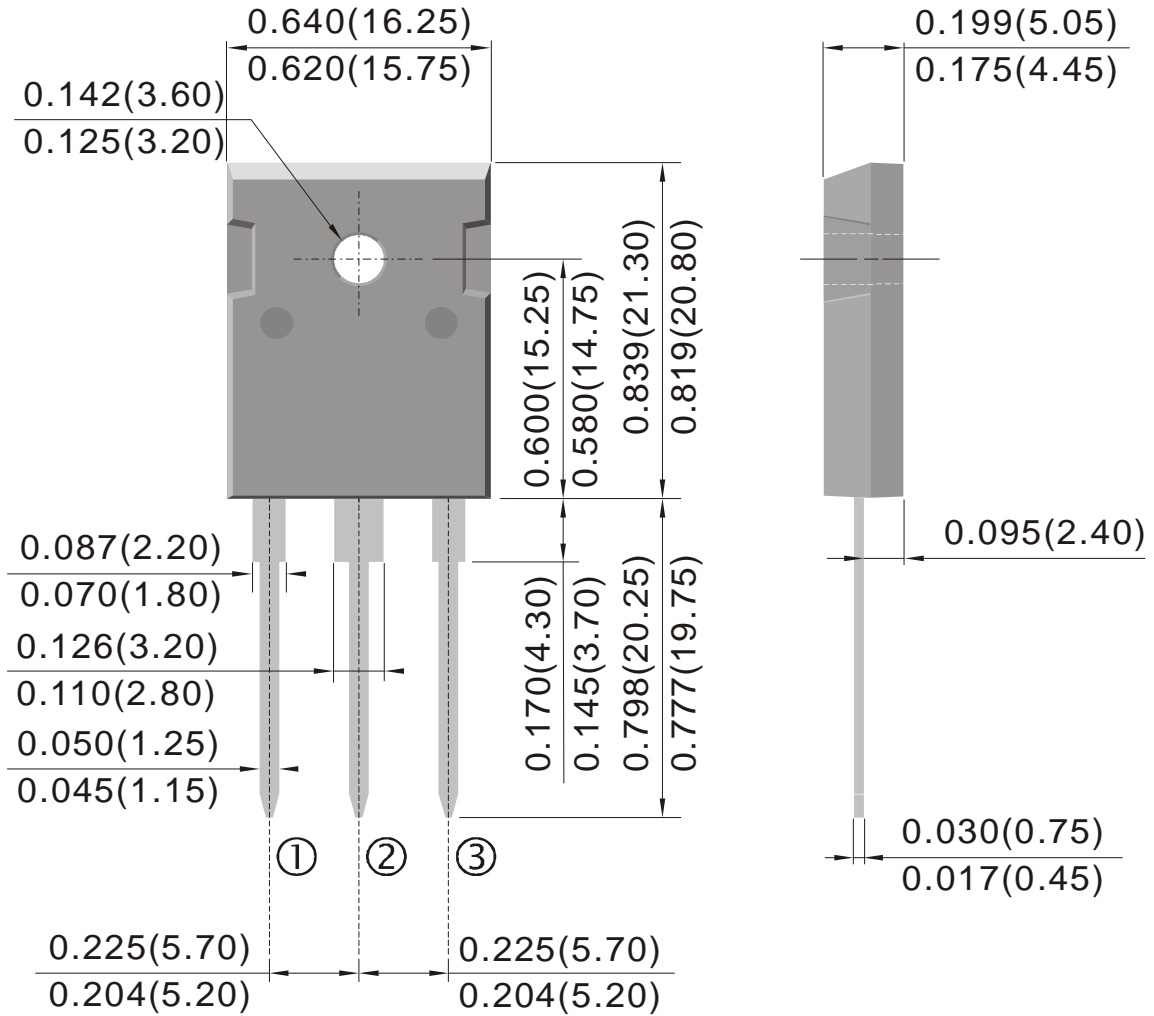


Fig.5- TYPICAL JUNCTION CAPACITANCE

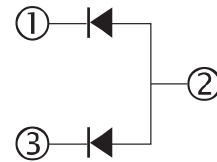
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**T0-247AD**



Positive  
 Common Cathode  
 Suffix "PT"



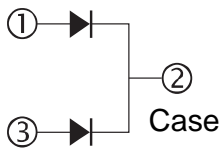
Negative  
 Common Anode  
 Suffix "PTR"

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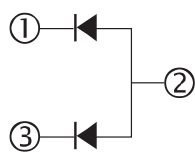
## MUR2020PT THRU MUR20100PTR

### T0-247S

| Ref. | Dimensions  |       |       |        |       |       |
|------|-------------|-------|-------|--------|-------|-------|
|      | Millimeters |       |       | Inches |       |       |
|      | Min.        | Typ.  | Max.  | Min.   | Typ.  | Max.  |
| A    | 4.85        |       | 5.16  | 0.191  |       | 0.203 |
| D    | 2.20        |       | 2.60  | 0.086  |       | 0.102 |
| E    | 0.40        |       | 0.80  | 0.015  |       | 0.031 |
| F    | 1.00        |       | 1.40  | 0.039  |       | 0.055 |
| F1   |             | 3.00  |       |        | 0.118 |       |
| F2   |             | 2.00  |       |        | 0.079 |       |
| F3   | 1.90        |       | 2.40  | 0.075  |       | 0.094 |
| F4   | 3.00        |       | 3.40  | 0.118  |       | 0.134 |
| G    |             | 10.90 |       |        | 0.429 |       |
| H    | 15.45       |       | 16.03 | 0.608  |       | 0.631 |
| L    | 19.85       |       | 21.09 | 0.781  |       | 0.830 |
| L1   | 3.70        |       | 4.30  | 0.146  |       | 0.169 |
| L2   | 18.30       |       | 19.13 | 0.720  |       | 0.753 |
| L3   | 14.20       |       | 20.30 | 0.559  |       | 0.799 |
| L4   | 34.05       |       | 41.38 | 1.341  |       | 1.629 |
| L5   | 5.35        |       | 6.30  | 0.211  |       | 0.248 |
| M    | 2.00        |       | 3.00  | 0.079  |       | 0.118 |
| V    |             | 5°    |       |        | 5°    |       |
| V2   |             | 60°   |       |        | 60°   |       |
| Dia. | 3.55        |       | 3.65  | 0.140  |       | 0.144 |



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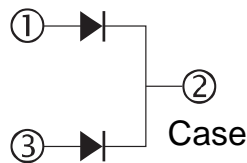
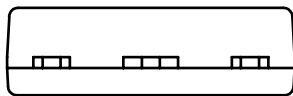
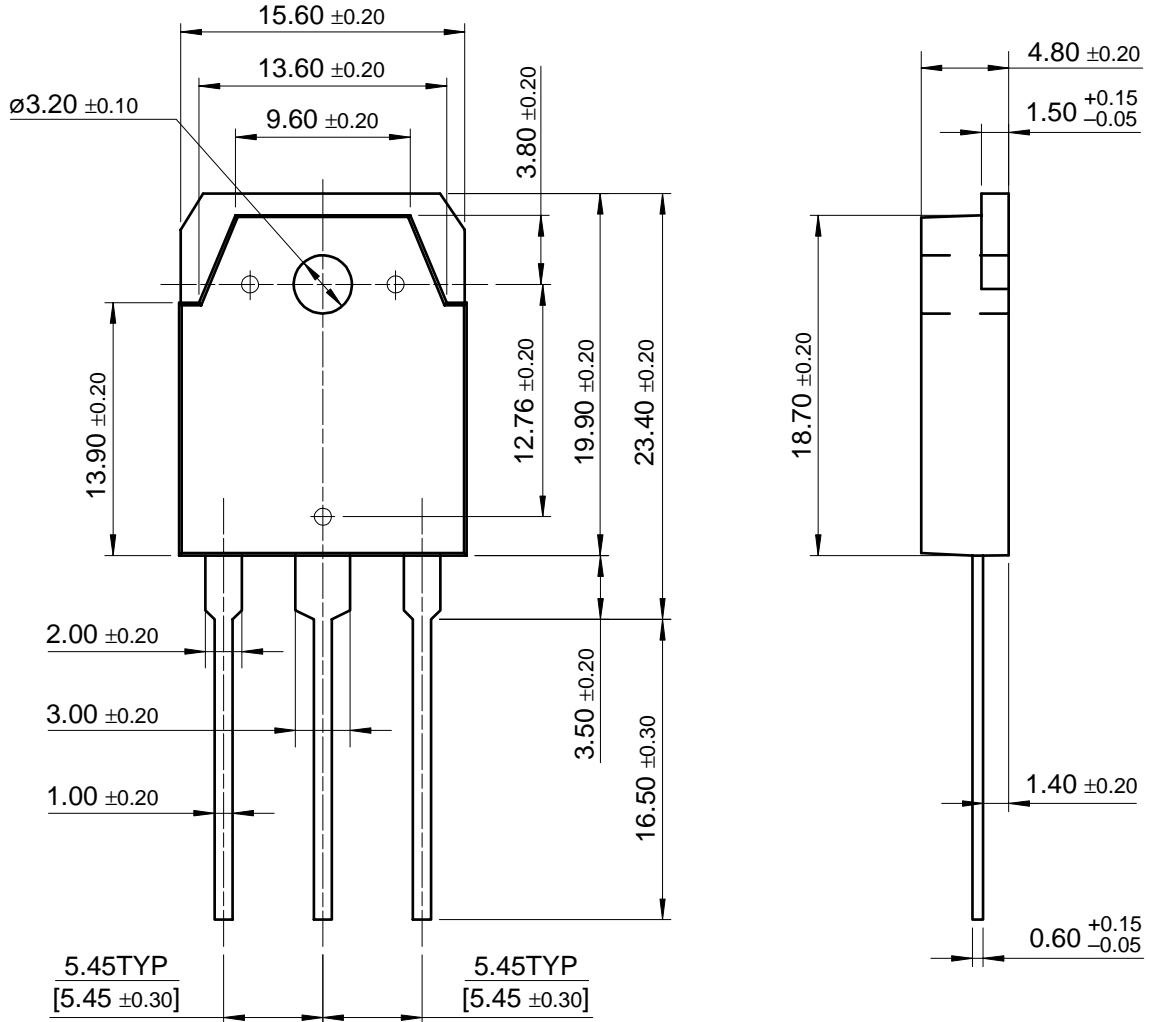
Negative  
Common Anode  
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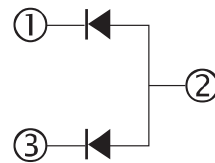
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**MUR2020PT THRU MUR20100PTR**

**TO-3P**



Positive  
Common Cathode  
Suffix "PT"



Negative  
Common Anode  
Suffix "PTR"