

### SUPER FAST RECTIFIERS

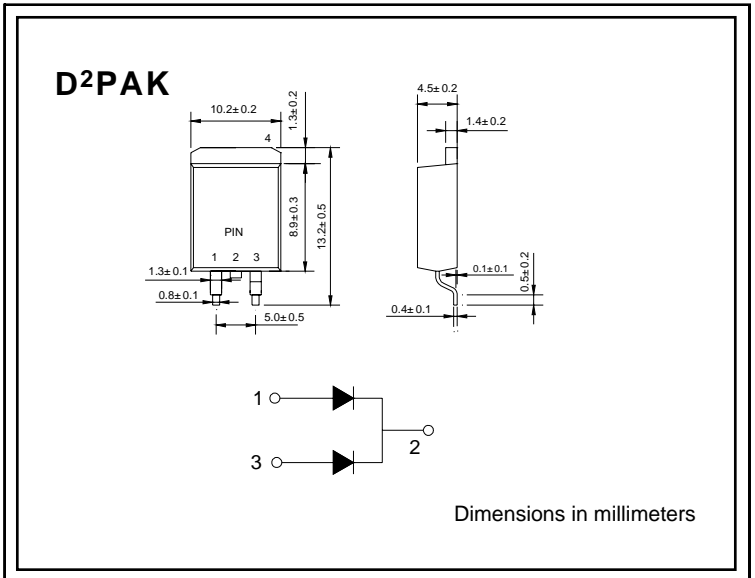
VOLTAGE RANGE: 50 --- 600 V  
CURRENT: 10 A

#### FEATURES

- ◇ Low cost
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with alcohol, Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0

#### MECHANICAL DATA

- ◇ Case: JEDEC D<sup>2</sup>PAK, molded plastic
- ◇ Terminals: Solderable per MIL-STD-202, Method 208
- ◇ Polarity: As marked
- ◇ Mounting position: Any



#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

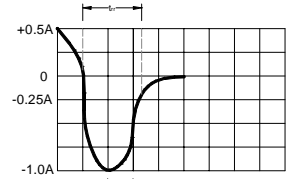
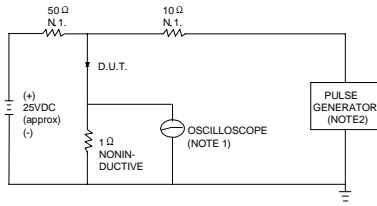
Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

|   |             | MUR 1005BC       | MUR 1010BC | MUR 1015BC | MUR 1020BC | MUR 1040BC | MUR 1060BC | UNITS            |
|---|-------------|------------------|------------|------------|------------|------------|------------|------------------|
| Maximum recurrent peak reverse voltage  | $V_{RRM}$   | 50               | 100        | 150        | 200        | 400        | 600        | V                |
| Maximum RMS voltage   | $V_{RMS}$   | 35               | 70         | 105        | 140        | 280        | 420        | V                |
| Maximum DC blocking voltage   | $V_{DC}$    | 50               | 100        | 150        | 200        | 400        | 600        | V                |
| Maximum average forward rectified current<br>@ $T_C=100^\circ\text{C}$  | $I_{F(AV)}$ | 10               |            |            |            |            |            | A                |
| Peak forward surge current<br>8.3ms single half-sine-wave<br>superimposed on rated load @ $T_J=125^\circ\text{C}$ | $I_{FSM}$   | 60               |            |            |            |            |            | A                |
| Maximum instantaneous forward voltage<br>@ 5.0A   | $V_F$       | 0.975            |            |            |            | 1.3        | 1.5        | V                |
| Maximum reverse current @ $T_A=25^\circ\text{C}$<br>at rated DC blocking voltage @ $T_A=150^\circ\text{C}$        | $I_R$       | 5.0              |            |            |            | 10.0       |            | $\mu\text{A}$    |
|   |             | 250              |            |            |            | 500        |            |                  |
| Maximum reverse recovery time (Note1)   | $t_{rr}$    | 25               |            |            |            | 50         |            | ns               |
| Operating junction temperature range  | $T_J$       | - 55 ----- + 150 |            |            |            |            |            | $^\circ\text{C}$ |
| Storage temperature range   | $T_{STG}$   | - 55 ----- + 150 |            |            |            |            |            | $^\circ\text{C}$ |

NOTE: 1. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=0.25\text{A}$ .

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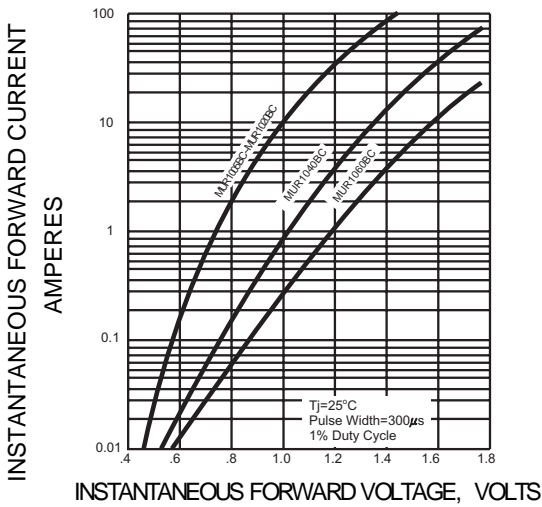
**FIG.1 – TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**



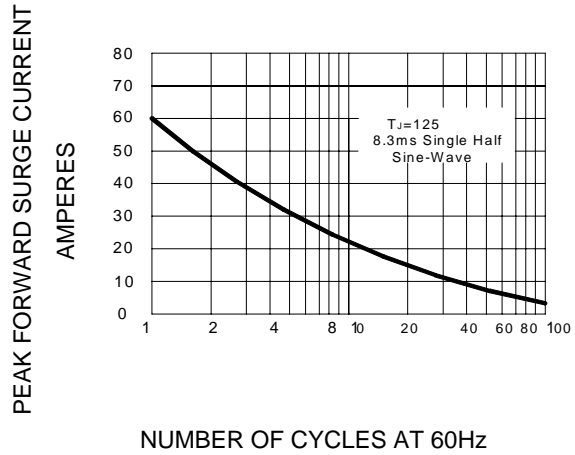
NOTES: 1. RISE TIME = 7ns MAX INPUT IMPEDANCE = 1MΩ, 22pF.  
 2. RISE TIME = 10ns MAX SOURCE IMPEDANCE = 50 Ω.

SET TIME BASE FOR 10/20 ns/cm

**FIG.2 – TYPICAL FORWARD CHARACTERISTIC**



**FIG.3 – PEAK FORWARD SURGE CURRENT**



**FIG.4-FORWARD DERATING CURVE**

