

PBMUR5JE

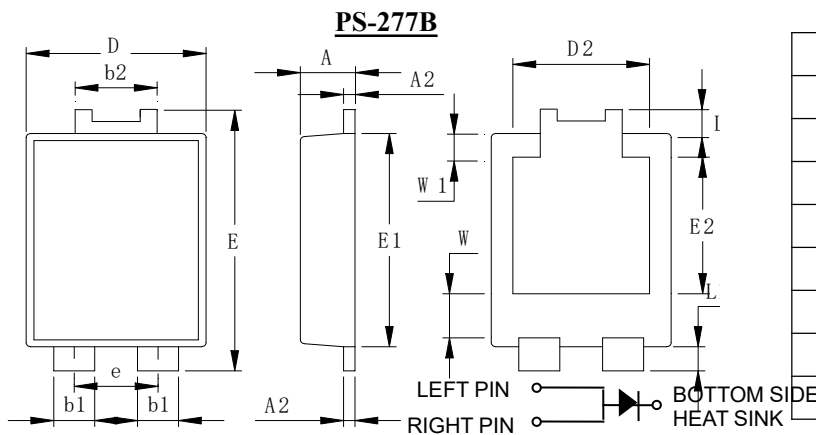
5.0AMPS. SUPER FAST SURFACE MOUNT RECTIFIERS

FEATURE

- . For surface mounted application
- . High current capability
- . Low forward voltage drop
- . Low power loss, high efficiency
- . High surge current capability
- . High temperature soldering guaranteed:
260°C/10 seconds at terminals.

MECHANICAL DATA

- . Terminal: Solder plated
- . Case: Molded with UL-94 Class V-0 recognized
Flame Retardant Epoxy (Halogen free)
- . Weight: 0.083 grams (approximate)



| NO | Dimensions | NO | Dimensions |
|----|------------|----|------------|
| A | 1.20±0.1 | e | 1.84Typ |
| A2 | 0.25±0.05 | E1 | 5.3±0.1 |
| b1 | 0.9±0.1 | E2 | 3.3±0.2 |
| b2 | 1.8±0.1 | L | 0.6±0.1 |
| D | 3.95±0.1 | L1 | 0.6±0.1 |
| D2 | 3.00Typ | W | 1.3±0.2 |
| E | 6.5±0.1 | W1 | 0.6±0.2 |

All Dimensions in mm

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

For capacitive load, derate current by 20%

MAXIMUM RATINGS (T_C=25°C unless otherwise noted)

| Parameter | SYMBOL | PBMUR5JE | Units |
|--|-------------|--------------|-------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 600 | V |
| Maximum RMS Voltage | V_{RMS} | 420 | V |
| Maximum DC blocking Voltage | V_{DC} | 600 | V |
| Average Forward Rectified Current | $I_{F(AV)}$ | 5 | A |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | I_{FSM} | 120 | A |
| Maximum Reverse Recovery Time (Note 1) | t_{rr} | 50 | nS |
| Typical Junction Capacitance (Note 2) | C_J | 30 | pF |
| Storage Temperature | T_{STG} | -55 to + 150 | °C |
| Operating Junction Temperature | T_J | -55 to + 150 | °C |

ELECTRICAL CHARACTERISTICS (T_C=25°C unless otherwise noted)

| Parameter | SYMBOL | Min | Typ | Max | Units |
|---|----------|-------|-------|--------------|-------|
| Reverse Breakdown Voltage at I _r =10uA | V_{BR} | 600 | ----- | ----- | V |
| Instantaneous Forward voltage at 5.0A | V_F | ----- | 1.2 | 1.5 | V |
| Instantaneous Forward voltage at 1.0A | V_F | ----- | 0.95 | 1.1 | V |
| Reverse current at rated DC blocking voltage | I_R | ----- | ----- | 5.0 200.0 | uA |

THERMAL CHARACTERISTICS($T_C=25^{\circ}\text{C}$ unless otherwise noted)

| Parameter | SYMBOL | PBMUR5JE | Units |
|------------------------------------|------------|----------|-----------------------------|
| Typical Thermal Resistance (Note2) | $R_{(JA)}$ | 65 | $^{\circ}\text{C}/\text{W}$ |
| | $R_{(JC)}$ | 20 | |

Note:

1. Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$
2. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
3. Polymide PCB, 2oz. Copper. Cathode pad dimensions 18.8* 14.4*1.6mm. Anode pad dimensions 5.6 x 14.4*1.6mm.

RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

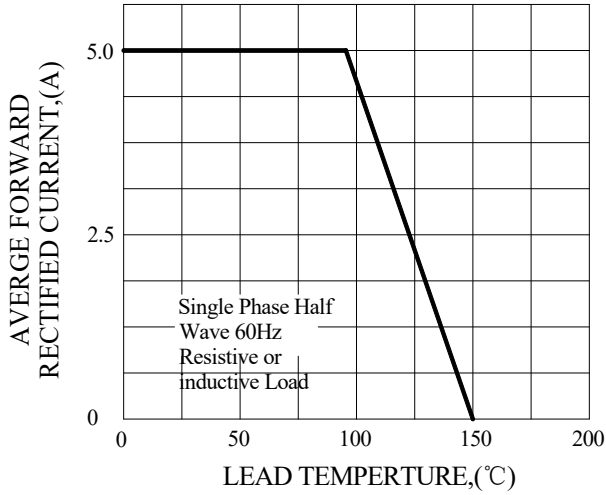


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

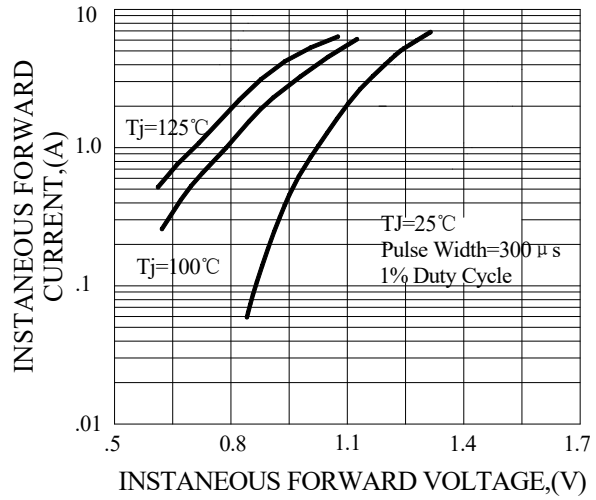


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

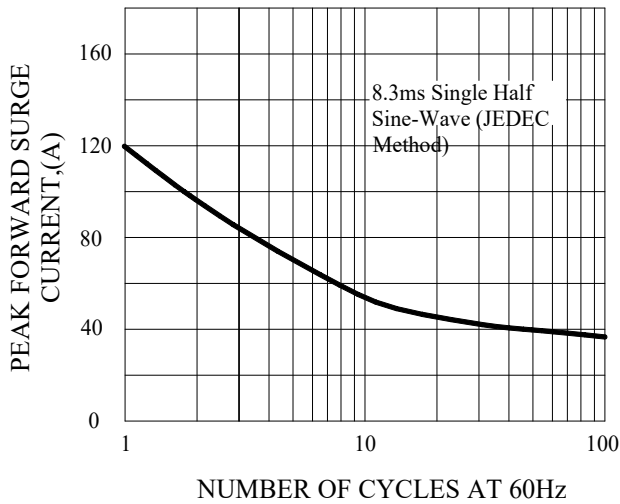


FIG.4-TYPICAL JUNCTION CAPACITANCE

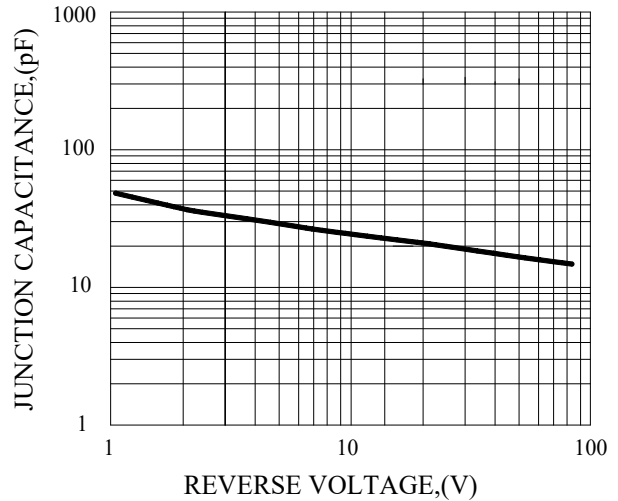


FIG.5-TYPICAL REVERSE CHARACTERISTICS

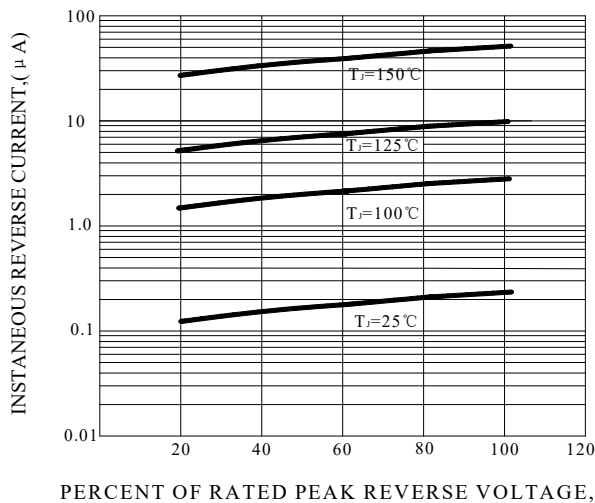
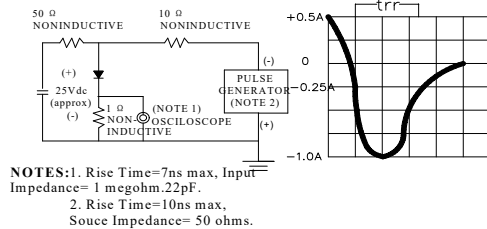
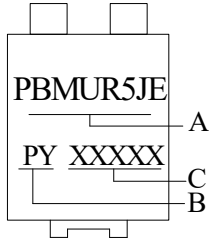


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



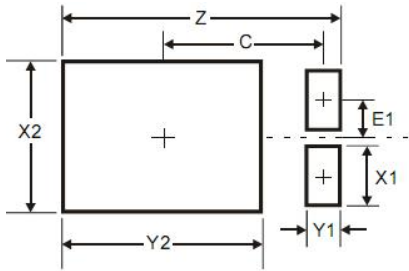
Marking、 Pad Layout 、 MOQ and Packaging illustration

1、 Marking



| SYMBOL | Explanation |
|--------|--------------|
| A | Product Name |
| B | Trademark |
| C | Date Code |

2、 Suggested Pad Layout

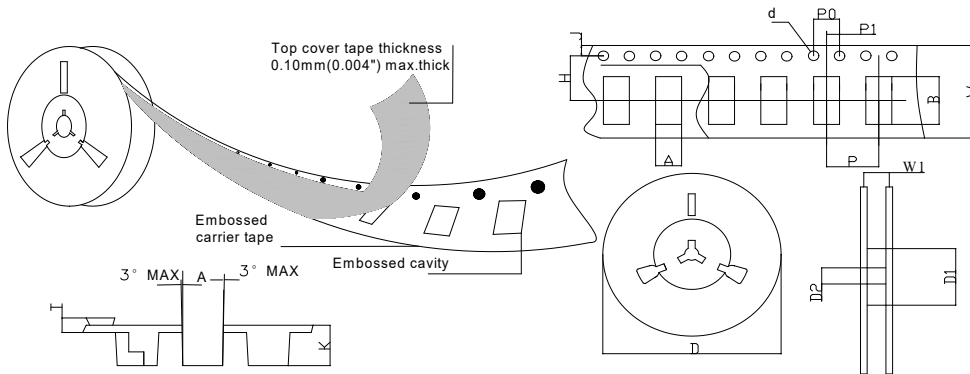


| Dimensions | Value (in mm) |
|------------|---------------|
| Z | 6.6 |
| X1 | 1.4 |
| X2 | 3.6 |
| Y1 | 0.8 |
| Y2 | 4.7 |
| C | 3.87 |
| E1 | 0.9 |

3、 MOQ

3000pcs / Tape & Reel

4、 Packaging



| SPECIFICATIONS mm(inch) | | PACKAGE | SPECIFICATIONS mm(inch) | | PACKAGE |
|----------------------------|------------|-----------------|----------------------------|------------|----------------|
| ITEM | SYM BOL | PS-277B | ITEM | SYM BOL | PS-277B |
| Carrier width | A | 4.45(0.175)Max | Carrier depth | K | 1.60(0.063)Typ |
| Carrier length | B | 7.0(0.276)Max | Punch hole pitch | P | 8.00(0.315)Typ |
| Sprocket hole | d | ø1.55(0.061)Typ | Sprocket hole pitch | P0 | 4.00(0.157)Typ |
| Reel outer diameter | D | 330.0(13.0)Typ | Embossment center | P1 | 2.00(0.079)Typ |
| Reel inner diameter | D1 | 74.0(2.913)Min | Overall tape thickness | T | 0.25(0.010)Typ |
| Feed hole diameter | D2 | 13.0(0.512)Typ | Tape width | W | 16.0(0.630)Typ |
| Sprocket hole position | J | 1.75(0.069)Typ | Reel width | W1 | 16.5(0.650)Min |
| Punch hole position | H | 7.50(0.295)Typ | | | |