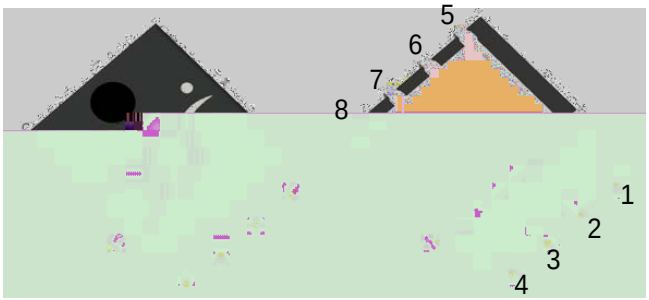
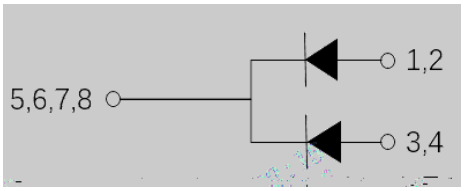
RoHS
COMPLIANT




- High frequency operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Part no. with suffix “Q” means AEC-Q101 qualified

Typical applications are in switching power supplies, converters, automotive, freewheeling diodes, and reverse battery protection.




- : PDFN5060
  Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- : Tin plated leads, solderable per J-STD-002 and JESD22-B102
- : As marked

■ (Ta=25 Unless otherwise specified

| | | | |
|---|---|---|---|
| Device marking code | | | MBR10200P5C |
| Repetitive peak reverse voltage | $V_{RRM}$ | V | 200 |
| Average Rectified Output Current @60Hz -sine | | | |
| I | | | |
| | FSM | A | 100 |
| Current Squared Time @1ms≤t≤8.3ms $T_J$=25 | $I^2t$ | $A^2s$ | 41 |
| Storage Temperature | $T_{stg}$ | | -55 ~ +175 |
| Junction Temperature | $T_J$ | | -55 ~ +175 |

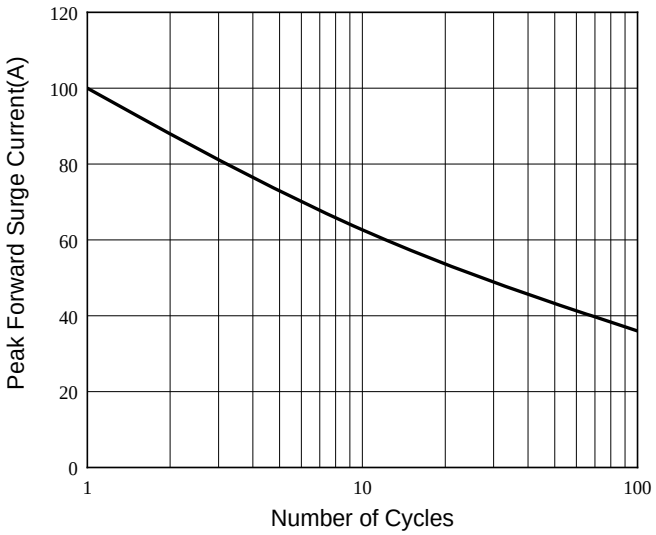
■ Ta=25 Unless otherwise specified

| | | | | | |
|---|---|---|---|---|---|
| | | | I | | |
| Instantaneous forward voltage per diode | $V_F$ | V | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | R | uA | $V_R$=200V | $T_J$=25 | | 1 |
| | | | | $T_J$=125 | | 150 |

■ (Typical)

Fig.2: Forward Surge Current Capability(Per Diode)



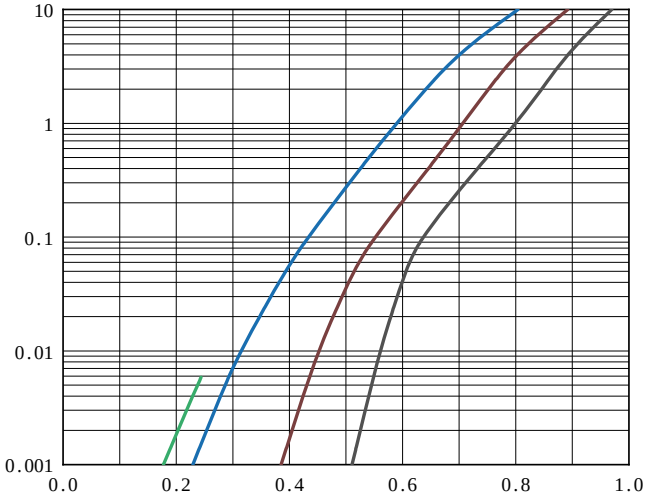




Fig.4:Typical Reverse Leakage Characteristics(Per Diode)

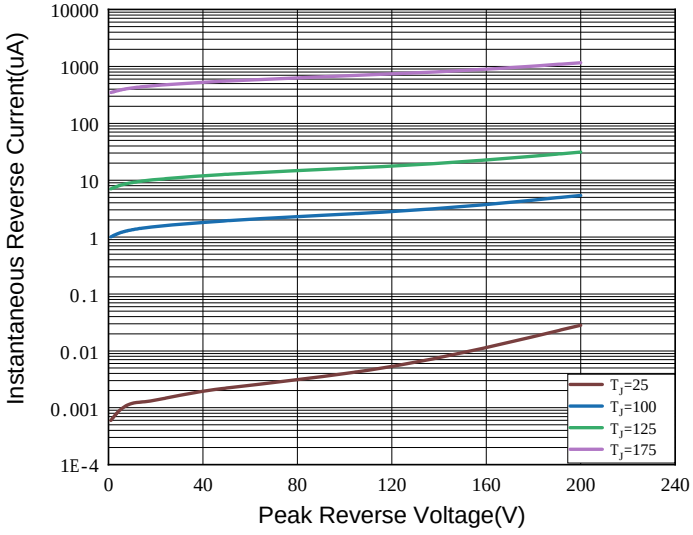



Fig.5:Typical Junction Capacitance(Per Diode)

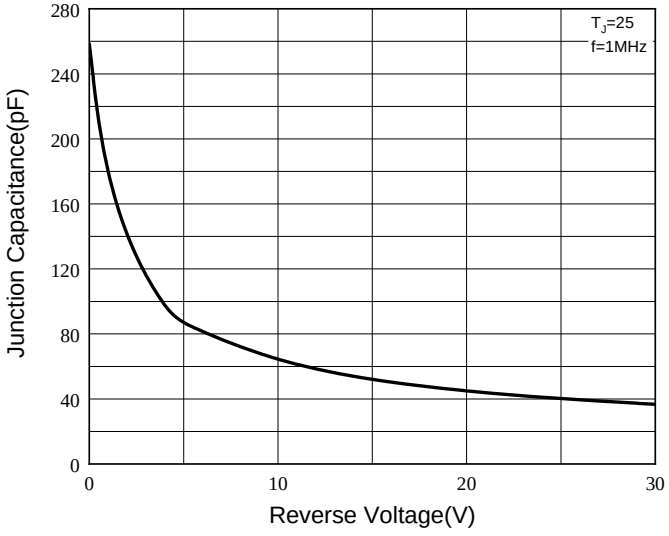
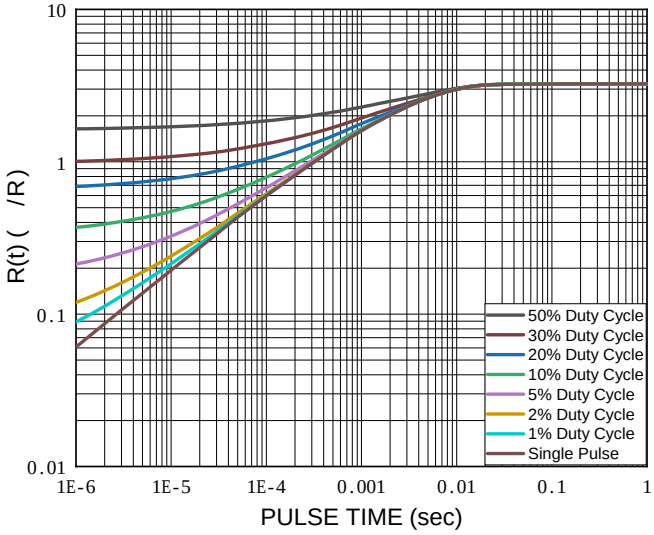



Fig.6:Transient Thermal Response,Junction to Case



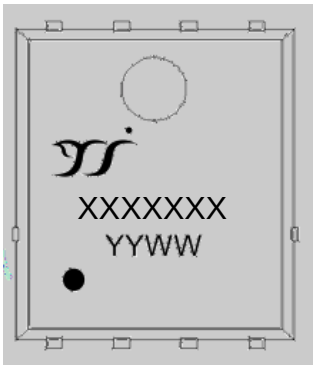
| | | | |
|---|---|---|---|
| Typical thermal resistance per diode | $R_{\theta J-A}$ | /R | 55(1) |
| | $R_{\theta J-C}$ | /R | 3.5(2) |

Note:
(1)Thermal resistance between junction and ambient mounted on P.C.B with 25.4mm*25.4mm copper pad areas.
(2)Thermal resistance between junction and case.

■ (Example)

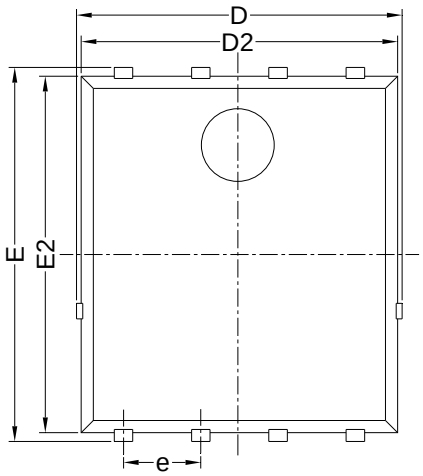
| | | | | | |
|---|---|---|---|---|---|
| MBR10200P5CQ | Approximate 0.105 | 5000 | 10000 | 100000 | 13“ reel |

■

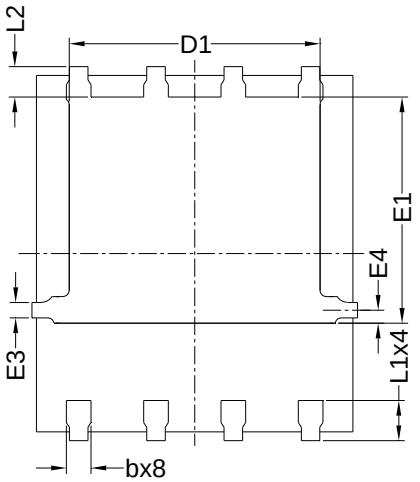



Note:
1. All marking is at middle of the product body
2. All marking is in laser printing
3. XXXXXX is marking code, like MBR645P5CQ marking code is MBR10200P5C
4. Body color: Black
5. YY R R is date code, “YY” is year. “R R” is week.
For instance:
The 17th week of 2022, date code is 2217
The 17th week of 2023, date code is 2317

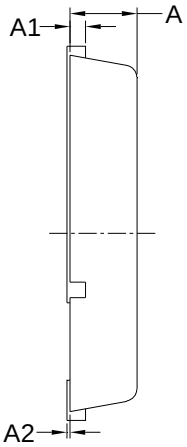
■



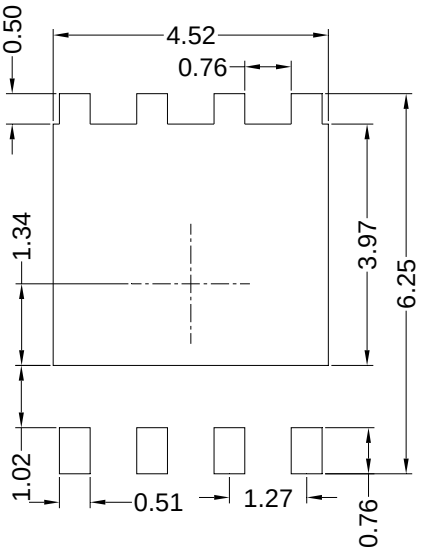

Top View




Bottom View




Side View




Suggested Solder Pad Layout
Top View

| SYMBOL | MILLIMETER | | |
|---|---|---|---|
| | MIN | NOM | MAX |
| D | 5.15 | 5.35 | 5.55 |
| E | 5.95 | 6.15 | 6.35 |
| A | 1.00 | 1.10 | 1.20 |
| A1 | | 0.254 BSC | |
| A2 | | | 0.10 |
| D1 | 3.92 | 4.12 | 4.32 |
| E1 | 3.52 | 3.72 | 3.92 |
| D2 | 5.00 | 5.20 | 5.40 |
| E2 | 5.66 | 5.86 | 6.06 |
| E3 | | 0.254 REF | |
| E4 | | 0.21 REF | |
| L1 | 0.56 | 0.66 | 0.76 |
| L2 | | 0.50 BSC | |
| b | 0.31 | 0.41 | 0.51 |
| e | | 1.27 BSC | |

Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.10mm.
3.The pad layout is for reference purposes only.

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