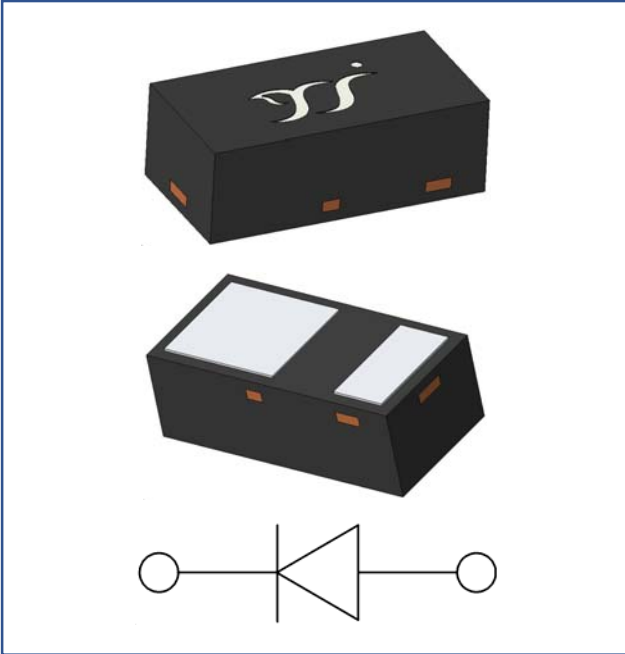


Schottky Barrier Diode



Features

- Moisture sensitivity level 1
- Reverse voltage: 40V
- Average forward current: 1A
- Part no. with suffix "Q" means AEC-Q101 qualified

Application

- Fast switching speed
- For general purpose switching applications

Mechanical data

- **Package:** DFN1608-2L
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

■ Maximum Ratings ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

| Parameter | Symbol | Unit | Value |
|--|-----------|--------------------|-------------|
| Device marking code | | | R |
| Repetitive peak reverse voltage | V_{RRM} | V | 40 |
| Forward current | I_F | A | 1 |
| Repetitive peak forward current @ $t_p \leq 1 \text{ ms}$; $\delta \leq 0.25$ | I_{FRM} | A | 3 |
| Non-Repetitive Surge peak forward current @ $t=8.3\text{ms}$ half-sine wave | I_{FSM} | A | 5 |
| Power Dissipation | P_D | mW | 510 |
| Junction temperature | T_J | $^{\circ}\text{C}$ | -55 to +150 |
| Storage temperature | T_{STG} | $^{\circ}\text{C}$ | -55 to +150 |



MBR1040THGQ

RoHS
COMPLIANT

■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

| Parameter | Symbol | Unit | Conditions | Min | Typ | Max |
|-------------------------|-----------------|------|---|-----|-----|-----|
| Reverse voltage | V _R | V | I _R =10uA | 40 | | |
| Forward Voltage | V _F | mV | I _F =100mA | | | 390 |
| | | | I _F =500mA | | | 500 |
| | | | I _F =700mA | | | 550 |
| | | | I _F =1A | | | 600 |
| Reverse Leakage Current | I _R | uA | V _R =10V | | | 4 |
| | | | V _R =40V | | | 20 |
| Capacitance | C | pF | V _R =1V, f=1MHz | | | 60 |
| | | | V _R =10V, f=1MHz | | | 25 |
| Reverse Recovery Time | T _{rr} | ns | I _F =I _R =0.5A, I _{rr} =0.1A | | 15 | 25 |

■ Thermal Characteristics

| Parameter | Symbol | Unit | Value |
|---|----------------------------------|------|-------|
| Thermal resistance, junction-to-ambient | R _{θJ-A} ⁽¹⁾ | °C/W | 245 |

Note:

(1) Device mounted on PCB, single-sided copper, with standard footprint

■ Ordering Information

| Preferred P/N | Packing Code | Unit Weight(g) | Minimum Package(pcs) | Inner Box Quantity(pcs) | Outer Carton Quantity(pcs) | Delivery Mode |
|---------------|--------------|--------------------|----------------------|-------------------------|----------------------------|---------------|
| MBR1040THGQ | F1 | Approximate 0.0026 | 3000 | 30000 | 120000 | Tape & Reel |



■ Characteristics

Fig 1: P_D-T_a Curve

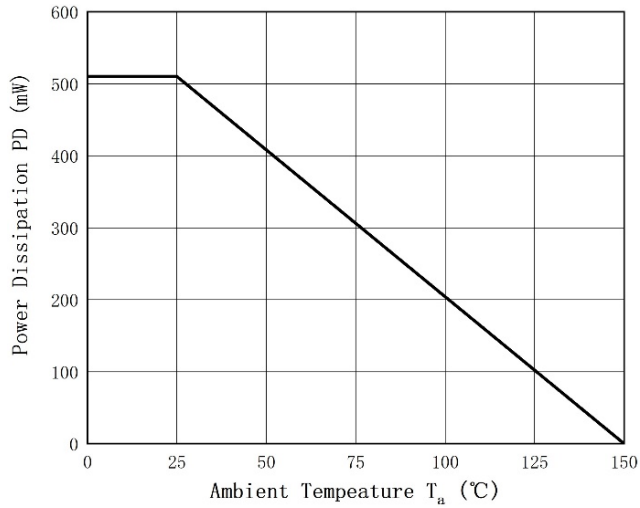


Fig 2: Capacitance Capabilities

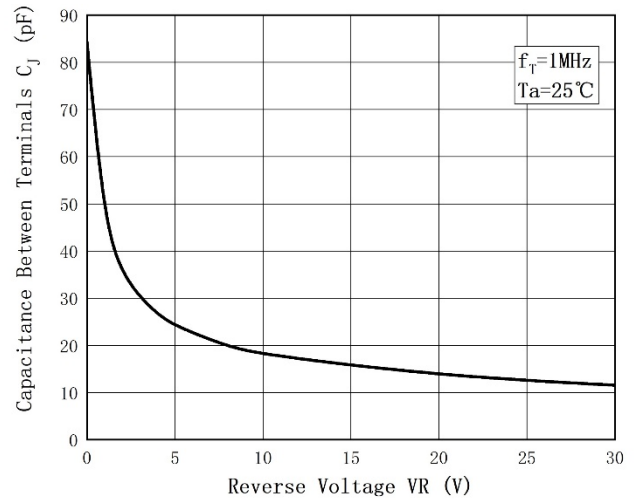


Fig 3: Typical Forward Characteristics

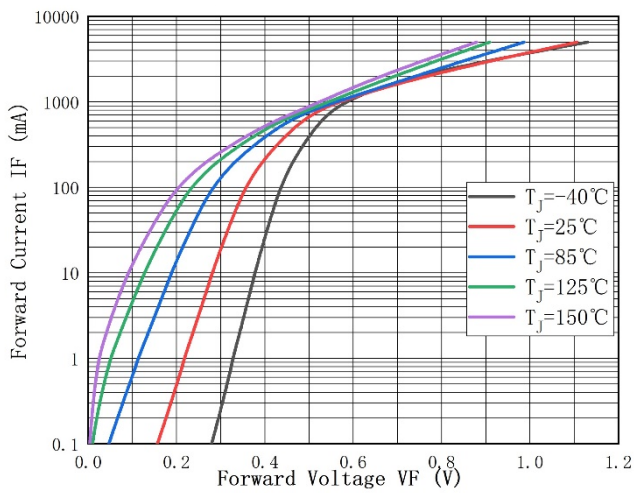
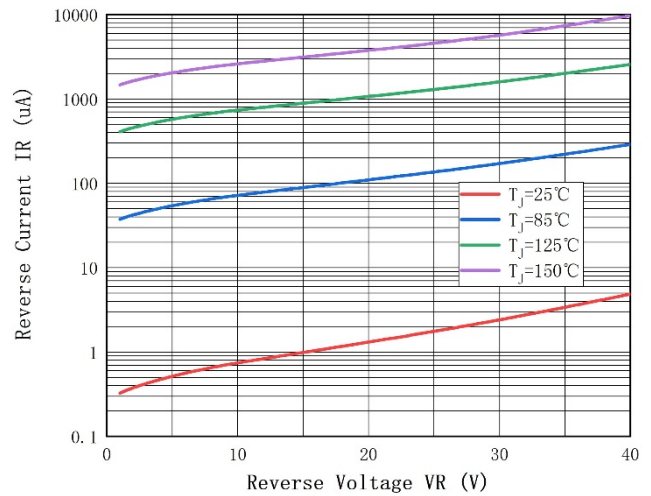


Fig 4: Typical Reverse Characteristics

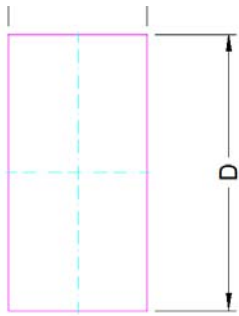




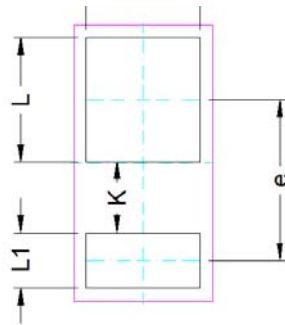
MBR1040THGQ

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■ Outline Dimensions

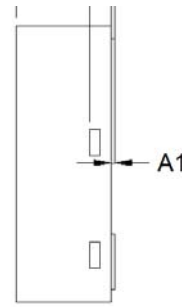


Top View



Bottom View

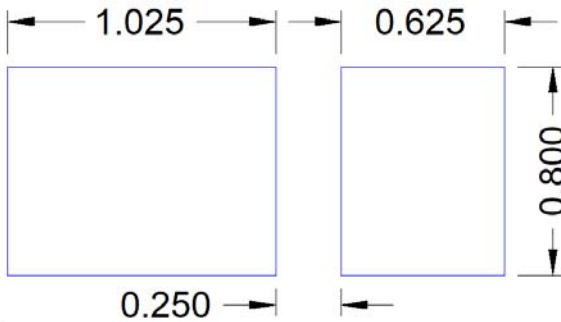
A



Side View

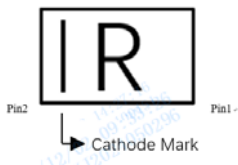
| SYMBOL | MILLIMETER | | |
|--------|------------|------|------|
| | MIN | NOM | MAX |
| D | 1.50 | 1.60 | 1.70 |
| E | 0.70 | 0.80 | 0.90 |
| A | 0.35 | 0.45 | 0.55 |
| c | 0.15 BSC | | |
| A1 | 0 | | 0.10 |
| b | 0.56 | 0.66 | 0.76 |
| L | 0.62 | 0.72 | 0.82 |
| L1 | 0.22 | 0.32 | 0.42 |
| k | 0.41 BSC | | |
| e | 0.93 BSC | | |

■ Suggested Pad Layout



UNIT: mm

■ Marking Information



Note:

1. All marking is at middle of the product body
2. All marking is in laser marking
3. Body color: Black



Disclaimer

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