

Schottky Barrier Rectifier

MBR40L45CT

FEATURES

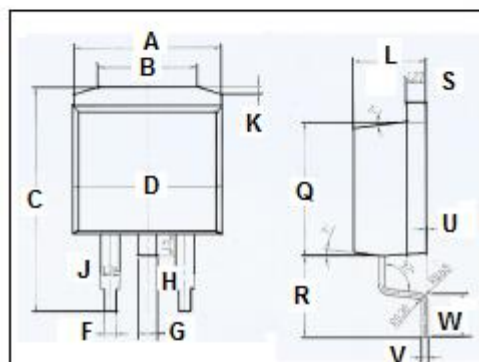
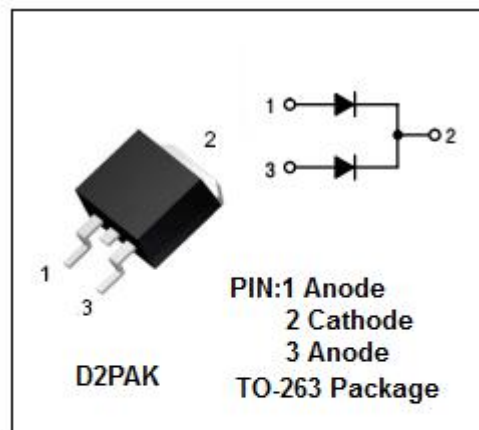
- Low forward voltage
- High surge capacity
- Low Power Loss,High Efficiency
- Guard ring for stress protection
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Power supply-output rectification
- Power management
- Instrumentation

ABSOLUTE MAXIMUM RATINGS(Ta=25°C)

| SYMBOL | PARAMETER | VALUE | UNIT |
|--|--|---------|------|
| V _{RRM} V _{RMS} V _R | Peak Repetitive Reverse Voltage RMS Voltage DC Blocking Voltage | 45 | V |
| I _{F(AV)} | Average Rectified Forward Current | 40 | A |
| I _{FSM} | Nonrepetitive Peak Surge Current 8.3ms single half sine-wave superimposed on rated load conditions | 200 | A |
| T _J | Junction Temperature | -65~175 | °C |
| T _{stg} | Storage Temperature Range | -65~175 | °C |
| dv/dt | Voltage Rate of Change (Rated V _R) | 10,000 | V/μs |



| DIM | mm | |
|-----|-------|-------|
| | MIN | MAX |
| A | 10 | |
| B | 6.6 | 6.8 |
| C | 15.23 | 15.25 |
| D | 10.15 | 10.17 |
| F | 0.76 | 0.78 |
| G | 1.26 | 1.28 |
| H | 1.4 | 1.6 |
| J | 1.33 | 1.35 |
| K | 0.4 | 0.6 |
| L | 4.6 | 4.8 |
| Q | 8.69 | 8.71 |
| R | 5.28 | 5.30 |
| S | 1.26 | 1.28 |
| U | 0.0 | 0.2 |
| V | 0.37 | 0.39 |
| W | 2.80 | 2.82 |

Schottky Barrier Rectifier

MBR40L45CT

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|--------------------------------------|-----|------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 1.9 | °C/W |

ELECTRICAL CHARACTERISTICS (Pulse Test: Pulse Width=300 μ s, Duty Cycle \leq 1%)

| SYMBOL | PARAMETER | CONDITIONS | MAX | UNIT |
|--------|---------------------------------------|-------------------------------------|------|------|
| V_F | Maximum Instantaneous Forward Voltage | $I_F = 20A ; T_c = 25^\circ C$ | 0.5 | V |
| | | $I_F = 20A ; T_c = 125^\circ C$ | 0.48 | |
| | | $I_F = 40A ; T_c = 25^\circ C$ | 0.63 | |
| | | $I_F = 40A ; T_c = 125^\circ C$ | 0.68 | |
| I_R | Maximum Instantaneous Reverse Current | $V_R = V_{RWM} ; T_c = 25^\circ C$ | 1.2 | mA |
| | | $V_R = V_{RWM} ; T_c = 125^\circ C$ | 275 | |

NOTICE:

ISC reserves the rights to make changes of the content herein the datasheet at any time without notification. The information contained herein is presented only as a guide for the applications of our products.

ISC products are intended for usage in general electronic equipment. The products are not designed for use in equipment which require specialized quality and/or reliability, or in equipment which could have applications in hazardous environments, aerospace industry, or medical field. Please contact us if you intend our products to be used in these special applications.

ISC makes no warranty or guarantee regarding the suitability of its products for any particular purpose, nor does ISC assume any liability arising from the application or use of any products, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages.