## ELECTRICAL SPECIFICATIONS

| PARAMETER | SYMBOL | TEST CONDITIONS | | VALUES | UNITS |
|---|---|---|---|---|---|
| Maximum forward voltage drop<br>See fig. 1 | $V_{FM}$ (1) | 19 A | $T_J$ = 25 °C | 0.36 | V |
| | | 38 A | | 0.46 | |
| | | 19 A | $T_J$ = 75 °C | 0.32 | |
| | | 38 A | | 0.43 | |
| Maximum reverse leakage current<br>See fig. 2 | $I_{RM}$ (1) | $T_J$ = 100 °C, $V_R$ = 12 V | | 465 | mA |
| | | $T_J$ = 100 °C, $V_R$ = 5 V | | 285 | |
| | | $T_J$ = 25 °C | $V_R$ = Rated $V_R$ | 10.5 | |
| | | $T_J$ = 100 °C | | 522 | |
| Maximum junction capacitance | $C_T$ | $V_R$ = 5 $V_{DC}$ (test signal range 100 kHz to 1 MHz) 25 °C | | 2000 | pF |
| Typical series inductance | $L_S$ | Measured lead to lead 5 mm from package body | | 8.0 | nH |
| Maximum voltage rate of change | dV/dt | Rated $V_R$ | | 10 000 | V/µs |

**Note**

(1) Pulse width < 300 µs, duty cycle < 2 %

## THERMAL - MECHANICAL SPECIFICATIONS

| PARAMETER | | SYMBOL | TEST CONDITIONS | VALUES | UNITS |
|---|---|---|---|---|---|
| Maximum junction temperature range | | $T_J$ | | - 55 to 125 | °C |
| Maximum storage temperature range | | $T_{Stg}$ | | - 55 to 150 | |
| Maximum thermal resistance, junction to case | | $R_{thJC}$ | DC operation<br>See fig. 4 | 1.50 | °C/W |
| Typical thermal resistance, case to heatsink | | $R_{thCS}$ | Mounting surface, smooth and greased | 0.50 | |
| Approximate weight | | | | 2 | g |
| | | | | 0.07 | oz. |
| Mounting torque | minimum | | | 6 (5) | kgf · cm<br>(lbf · in) |
| | maximum | | | 12 (10) | |
| Marking device | | | Case style $D^2PAK$ | 19TQ015S | |

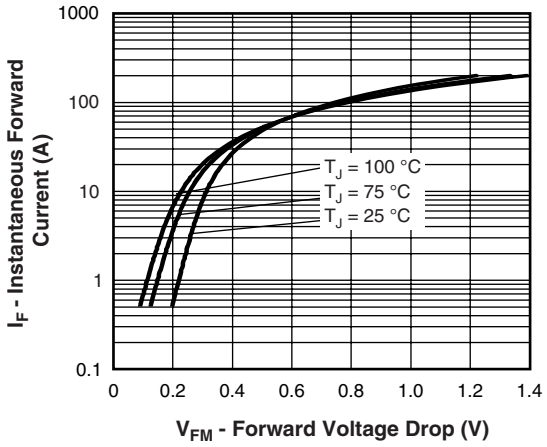


Fig. 1 - Maximum Forward Voltage Drop Characteristics

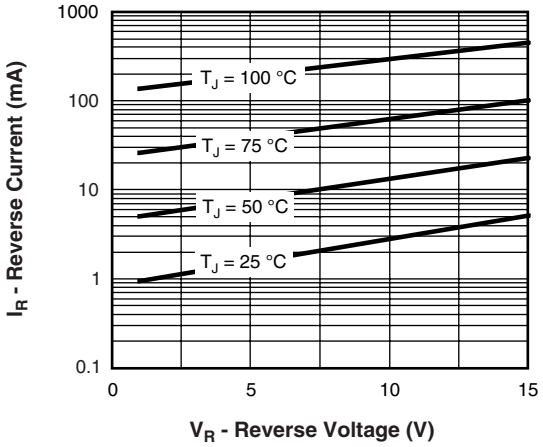


Fig. 2 - Typical Values of Reverse Current vs. Reverse Voltage

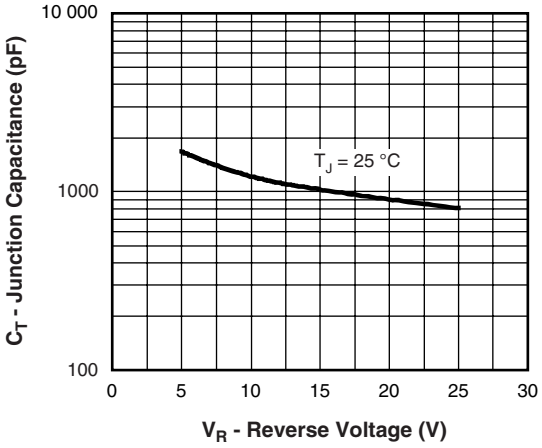


Fig. 3 - Typical Junction Capacitance vs. Reverse Voltage

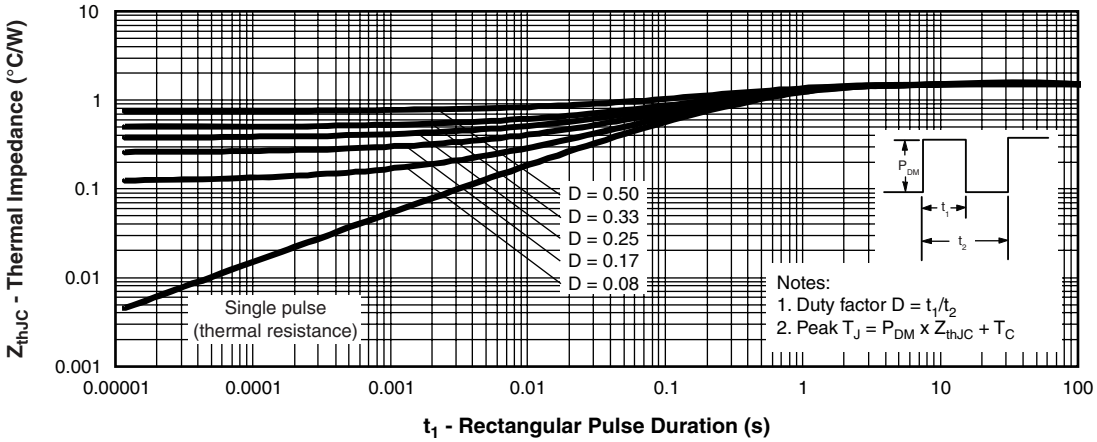


Fig. 4 - Maximum Thermal Impedance $Z_{thJC}$ Characteristics

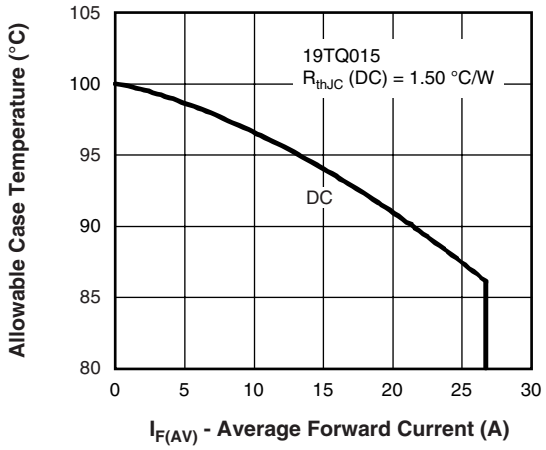


Fig. 5 - Maximum Allowable Case Temperature vs. Average Forward Current

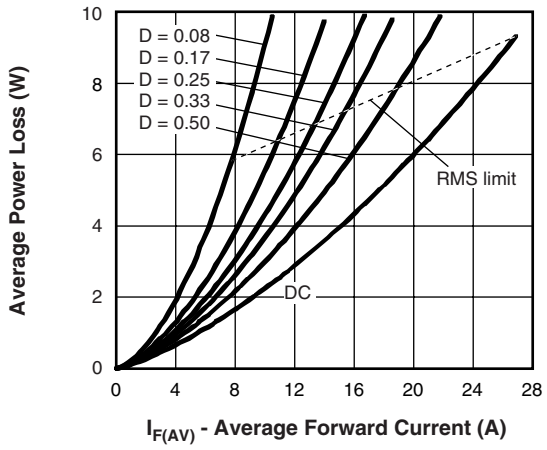


Fig. 6 - Forward Power Loss Characteristics

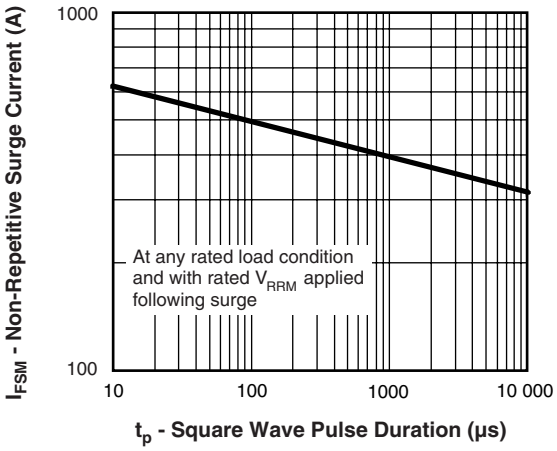


Fig. 7 - Maximum Non-Repetitive Surge Current

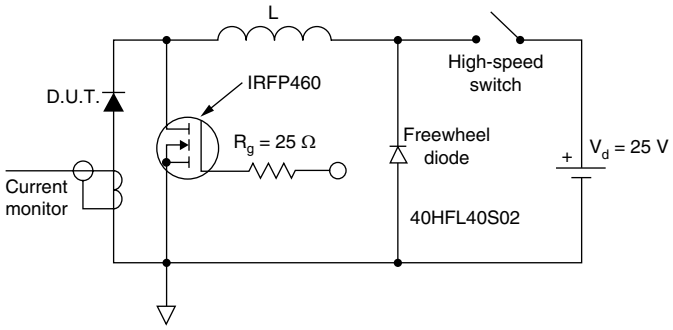


Fig. 8 - Unclamped Inductive Test Circuit

## ORDERING INFORMATION TABLE

**Device code**

| 19 | T | Q | 015 | S | TRL | - |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

1 - Current rating (19 A)

2 - Circuit configuration:
T = TO-220

3 - Schottky “Q” series

4 - Voltage rating (015 = 15 V)

5 - • S = $D^2PAK$

6 - • None = Tube (50 pieces)
• TRL = Tape and reel (left oriented)
• TRR = Tape and reel (right oriented)

7 - • None = Standard production
• PbF = Lead (Pb)-free

| LINKS TO RELATED DOCUMENTS | |
|---|---|
| Dimensions | http://www.vishay.com/doc?95014 |
| Part marking information | http://www.vishay.com/doc?95008 |
| Packaging information | http://www.vishay.com/doc?95032 |

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