

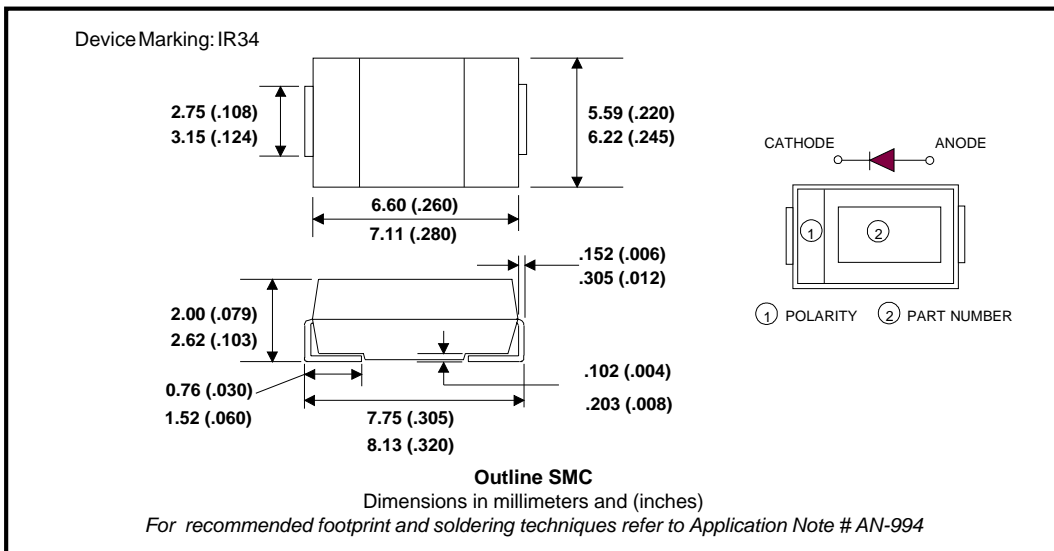
Major Ratings and Characteristics

| Characteristics | Value | Units |
|--------------------------------------|-------------|------------|
| $I_{F(AV)}$ Rectangular waveform | 3.0 | A |
| V_{RRM} | 40 | V |
| I_{FSM} @ $t_p=5\mu s$ sine | 1580 | A |
| V_F @ $3.0A_{pk}, T_J=125^\circ C$ | 0.43 | V |
| T_J range | - 55 to 150 | $^\circ C$ |

Description/ Features

The MBRS340TR surface-mount Schottky rectifier has been designed for applications requiring low forward drop and small foot prints on PC boards. Typical applications are in disk drives, switching power supplies, converters, free-wheeling diodes, battery charging, and reverse battery protection.

- Small foot print, surface mountable
- Very low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability



MBRS340TR

Bulletin PD-20585 rev. D 03/03



Voltage Ratings

| Part number | MBRS340TR |
|---|-----------|
| V_R Max. DC Reverse Voltage (V) | 40 |
| V_{RWM} Max. Working Peak Reverse Voltage (V) | |

Absolute Maximum Ratings

| Parameters | Value | Units | Conditions |
|--|-------|-------|--|
| $I_{F(AV)}$ Max. Average Forward Current | 3.0 | A | 50% duty cycle @ $T_L = 118^\circ\text{C}$, rectangular wave form |
| | 4.0 | | 50% duty cycle @ $T_L = 110^\circ\text{C}$, rectangular wave form |
| I_{FSM} Max. Peak One Cycle Non-Repetitive Surge Current | 1580 | A | 5 μs Sine or 3 μs Rect. pulse |
| | 80 | | 10ms Sine or 6ms Rect. pulse |
| E_{AS} Non Repetitive Avalanche Energy | 6 | mJ | $T_J = 25^\circ\text{C}$, $I_{AS} = 1.0\text{A}$, $L = 12\text{mH}$ |
| I_{AR} Repetitive Avalanche Current | 1.0 | A | Current decaying linearly to zero in 1 μsec Frequency limited by T_J max. $V_a = 1.5 \times V_r$ typical |

Electrical Specifications

| Parameters | Value | Units | Conditions |
|--|-------|------------------|---|
| V_{FM} Max. Forward Voltage Drop (1) | 0.525 | V | @ 3A |
| | 0.68 | V | @ 6A |
| | 0.43 | V | @ 3A |
| | 0.57 | V | @ 6A |
| I_{RM} Max. Reverse Leakage Current | 2.0 | mA | $T_J = 25^\circ\text{C}$ |
| | 20 | mA | $T_J = 100^\circ\text{C}$ |
| | 35 | mA | $T_J = 125^\circ\text{C}$ |
| C_T Max. Junction Capacitance | 230 | pF | $V_R = 5V_{DC}$ (test signal range 100KHz to 1Mhz) 25°C |
| L_S Typical Series Inductance | 3.0 | nH | Measured lead to lead 5mm from package body |
| dv/dt Max. Voltage Rate of Change | 10000 | V/ μs | (Rated V_R) |

(1) Pulse Width < 300 μs , Duty Cycle < 2%

Thermal-Mechanical Specifications

| Parameters | Value | Units | Conditions |
|--|-------------|--------------------|---------------------|
| T_J Max. Junction Temperature Range (*) | -55 to 150 | $^\circ\text{C}$ | |
| T_{stg} Max. Storage Temperature Range | -55 to 150 | $^\circ\text{C}$ | |
| R_{thJL} Max. Thermal Resistance Junction to Lead (**) | 12 | $^\circ\text{C/W}$ | DC operation |
| R_{thJA} Max. Thermal Resistance Junction to Ambient | 46 | $^\circ\text{C/W}$ | DC operation |
| wt Approximate Weight | 0.24(0.008) | g(oz.) | |
| Case Style | SMC | | Similar to DO-214AB |
| Device Marking | IR34 | | |

(*) $\frac{dP_{tot}}{dT_J} < \frac{1}{R_{th(j-a)}}$ thermal runaway condition for a diode on its own heatsink

(**) Mounted 1 inch square PCB

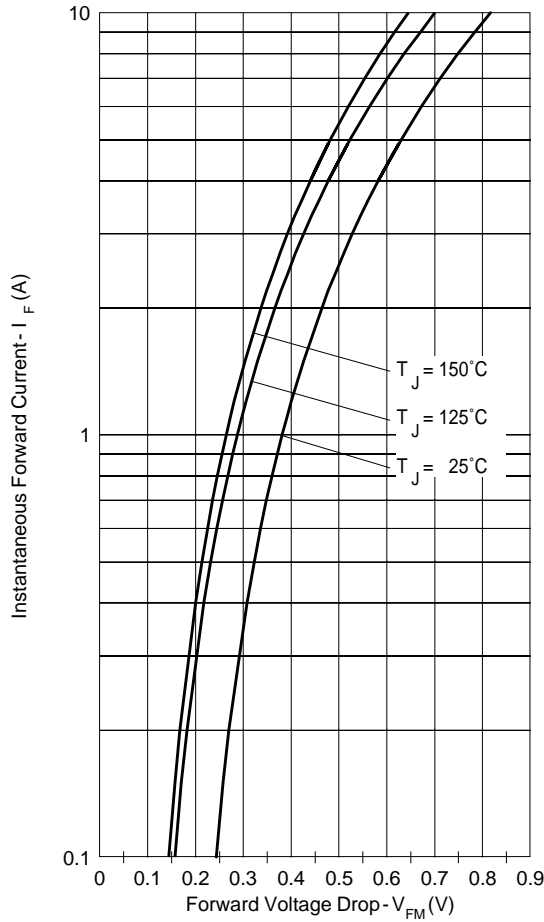


Fig. 1 - Max. Forward Voltage Drop Characteristics (Per Leg)

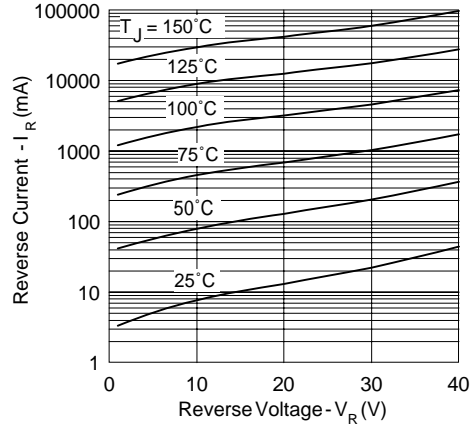


Fig. 2 - Typical Values Of Reverse Current Vs. Reverse Voltage (Per Leg)

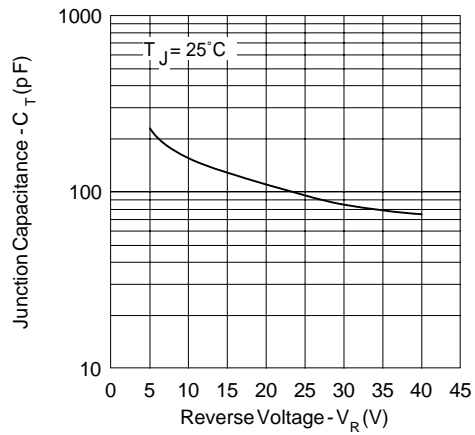


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage (Per Leg)

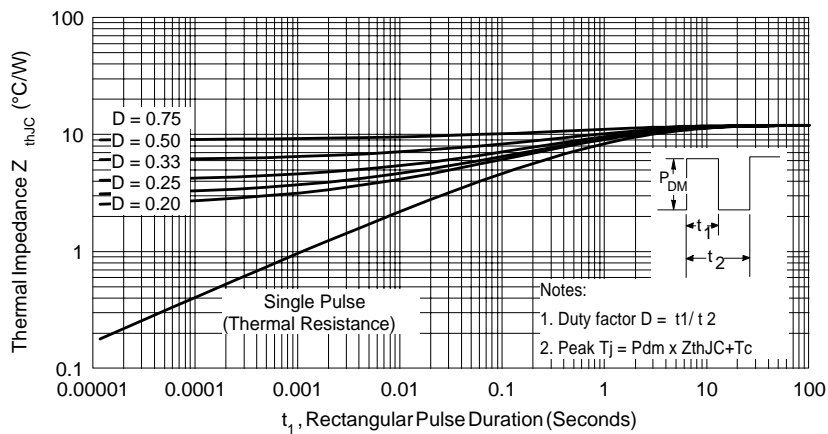


Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics (Per Leg)

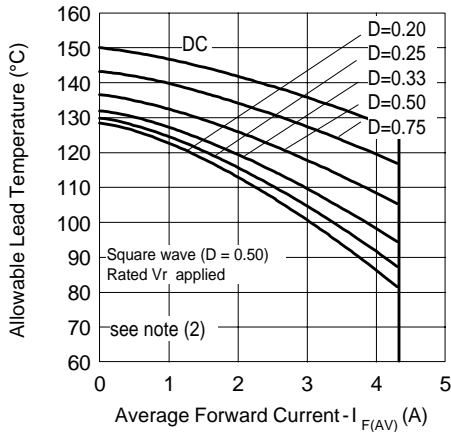


Fig. 4 - Maximum Average Forward Current Vs. Allowable Lead Temperature

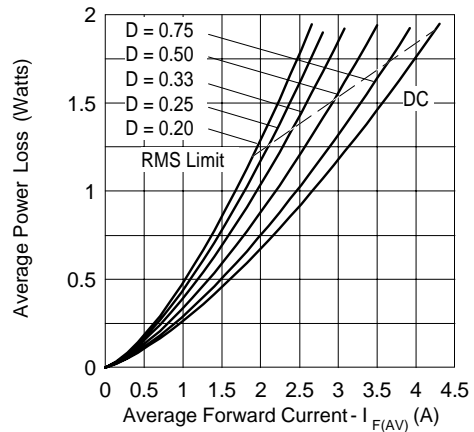


Fig. 5 - Maximum Average Forward Dissipation Vs. Average Forward Current

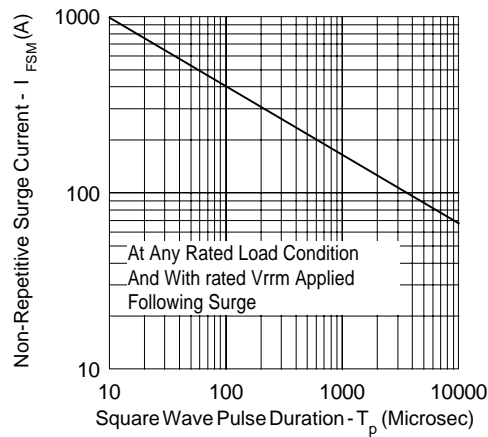
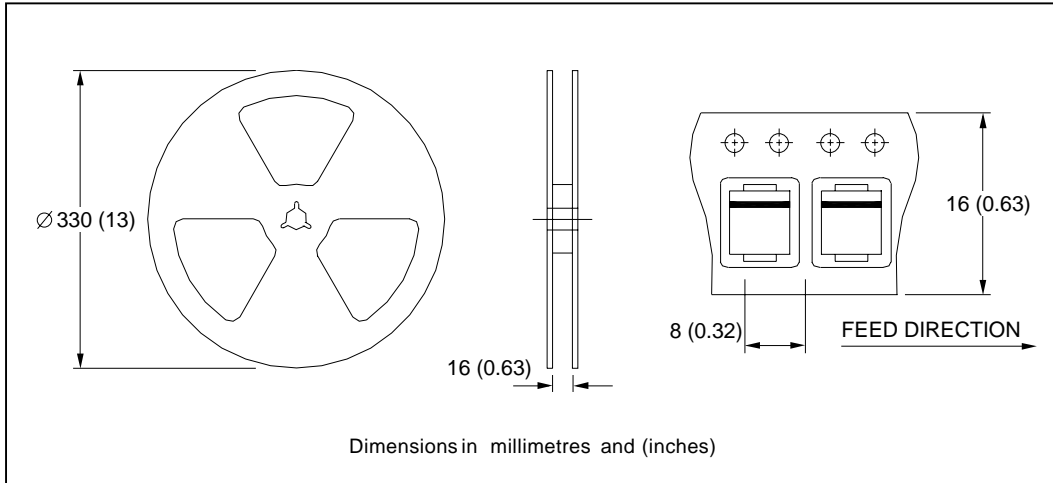


Fig. 6 - Maximum Peak Surge Forward Current Vs. Pulse Duration

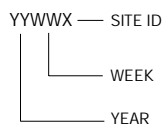
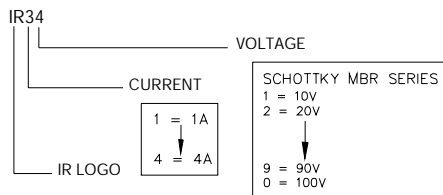
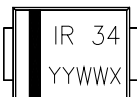
- (2) Formula used: $T_C = T_J - (Pd + Pd_{REV}) \times R_{thJC}$;
 $Pd = \text{Forward Power Loss} = I_{F(AV)} \times V_{FM} @ (I_{F(AV)} / D)$ (see Fig. 6);
 $Pd_{REV} = \text{Inverse Power Loss} = V_{R1} \times I_R (1 - D)$; $I_R @ V_{R1} = 80\% \text{ rated } V_R$

Tape & Reel Information



Marking & Identification

Each device has 2 rows for identification. The first row designates the device as manufactured by International Rectifier as indicated by the letters "IR", and the Part Number (indicates the current and the voltage rating). The second row indicates the year, the week of manufacturing and the Site ID.



Ordering Information

MBRS340TR - TAPE AND REEL

WHEN ORDERING, INDICATE THE PART NUMBER AND THE QUANTITY (IN MULTIPLES OF 3000 PIECES).

EXAMPLE: MBRS340TR - 6000 PIECES

MBRS340TR

Bulletin PD-20585 rev. D 03/03

International
IOR Rectifier

Data and specifications subject to change without notice.
This product has been designed and qualified for Industrial Level.
Qualification Standards can be found on IR's Web site.

International
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IR WORLD HEADQUARTERS: 233 Kansas St., El Segundo, California 90245, USA Tel: (310) 252-7105
TAC Fax: (310) 252-7309
Visit us at www.irf.com for sales contact information. 03/03

单击下面可查看定价，库存，交付和生命周期等信息

[>>Vishay\(威世\)](#)