

## 500mW, High Speed Switching Diode

### FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- High surge current capability
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

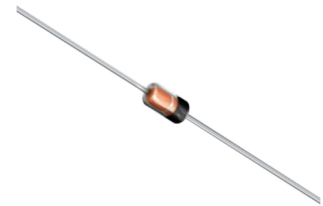
### APPLICATIONS

- Switching mode power supply (SMPS)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	150	mA
$V_{RRM}$	100	V
$I_{FSM}$	2	A
$V_F$ at $I_F=100mA$	1	V
$T_{J\ MAX}$	150	°C
Package	DO-35	
Configuration	Singal die	

### MECHANICAL DATA

- Case: DO-35
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Polarity: Indicated by cathode band
- Weight:  $125 \pm 4$  mg



ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	1N4148	1N4448	1N914B	UNIT
Power dissipation	$P_D$		500		mW
Repetitive peak reverse voltage	$V_{RRM}$		100		V
Non-Repetitive peak forward surge current Pluse width = $1\mu\text{s}$ , Square wave	$I_{FSM}$		2		A
Non-Repetitive peak forward current	$I_{FM}$		450		mA
Forward current	$I_F$		150		mA
Junction temperature range	$T_J$		-65 to +150		°C
Storage temperature range	$T_{STG}$		-65 to +150		°C

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	TYP	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	240	°C/W

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)						
<b>PARAMETER</b>	<b>CONDITIONS</b>		<b>SYMBOL</b>	<b>MIN</b>	<b>MAX</b>	<b>UNIT</b>
Forward voltage per diode <sup>(1)</sup>	1N4448, 1N914B	$I_F = 5\text{ mA}$ , $T_J = 25^\circ\text{C}$	$V_F$	0.62	0.72	V
	1N4148	$I_F = 10\text{ mA}$ , $T_J = 25^\circ\text{C}$		-	1.00	
	1N4448, 1N914B	$I_F = 100\text{ mA}$ , $T_J = 25^\circ\text{C}$		-	1.00	
Reverse voltage <sup>(2)</sup>	$I_R = 100\ \mu\text{A}$ , $T_J = 25^\circ\text{C}$		$V_R$	100	-	V
	$I_R = 5\ \mu\text{A}$ , $T_J = 25^\circ\text{C}$			75	-	
Reverse current <sup>(2)</sup>	$V_R = 20\text{ V}$ , $T_J = 25^\circ\text{C}$		$I_R$	-	25	nA
	$V_R = 75\text{ V}$ , $T_J = 25^\circ\text{C}$			-	5	$\mu\text{A}$
Junction capacitance	1 MHz, $V_R = 0\text{V}$		$C_J$	-	4	pF
Reverse recovery time	$I_F = 10\text{ mA}$ , $V_R = 6\text{V}$ , $R_L = 100\ \Omega$ , $I_{RR} = 1\text{ mA}$		$t_{rr}$	-	4	ns

**Notes:**

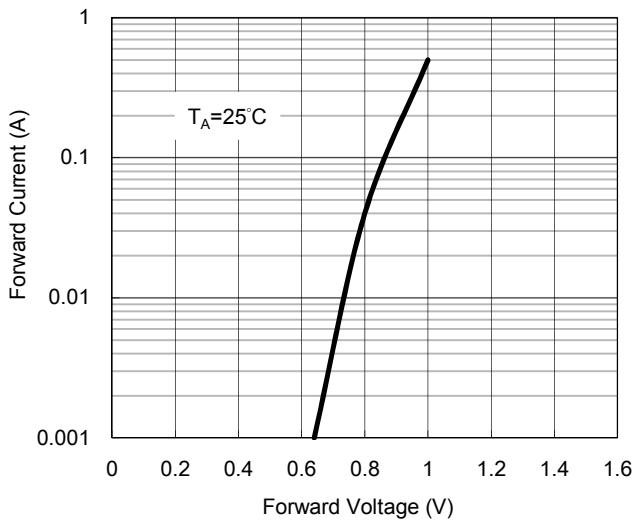
1. Pulse test with  $PW = 0.3\text{ ms}$
2. Pulse test with  $PW = 30\text{ ms}$

<b>ORDERING INFORMATION</b>		
<b>PART NO.</b>	<b>PACKAGE</b>	<b>PACKING</b>
1N4148 R0G	DO-35	10K / 14" Reel
1N4148 R0	DO-35	10K / 14" Reel
1N4148 A0G	DO-35	5K / Box(Ammo)
1N4148 A0	DO-35	5K / Box(Ammo)
1N4448 R0G	DO-35	10K / 14" Reel
1N4448 R0	DO-35	10K / 14" Reel
1N4448 A0G	DO-35	5K / Box(Ammo)
1N4448 A0	DO-35	5K / Box(Ammo)
1N914B R0G	DO-35	10K / 14" Reel
1N914B R0	DO-35	10K / 14" Reel
1N914B A0G	DO-35	5K / Box(Ammo)
1N914B A0	DO-35	5K / Box(Ammo)

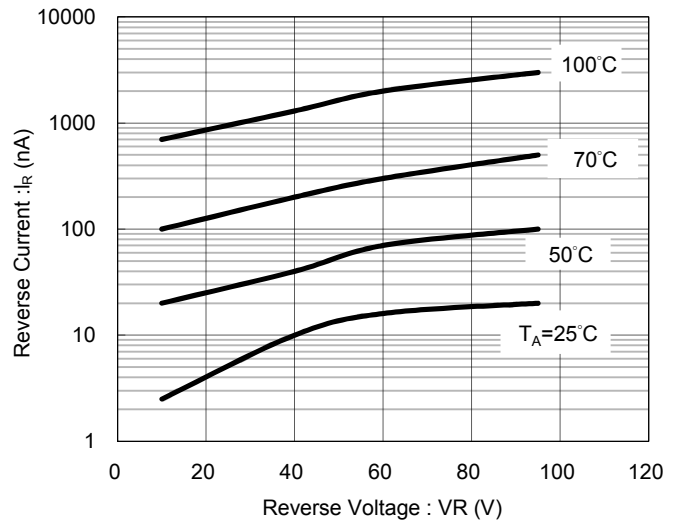
**CHARACTERISTICS CURVES**

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

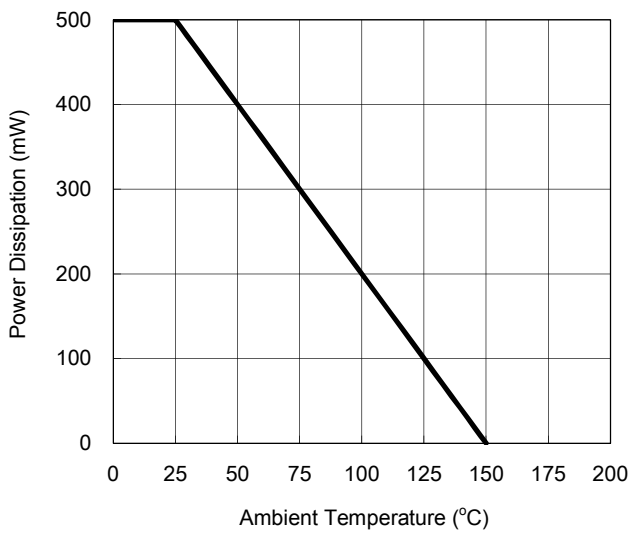
**Fig.1 Typical Forward Characteristics**



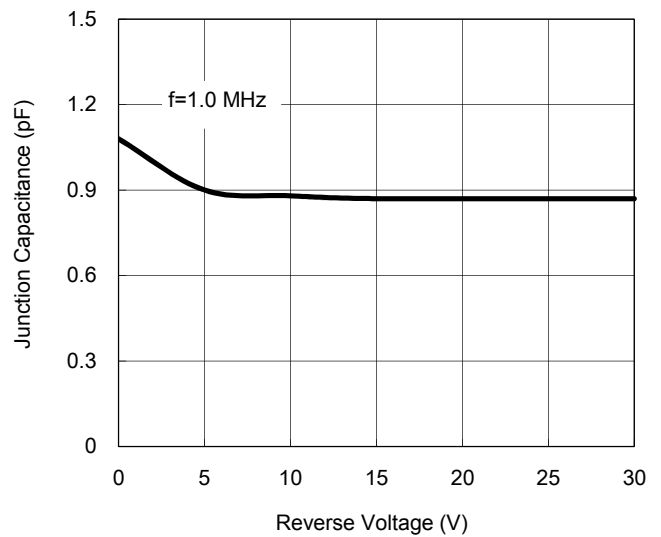
**Fig. 2 Reverse Current VS. Reverse Voltage**



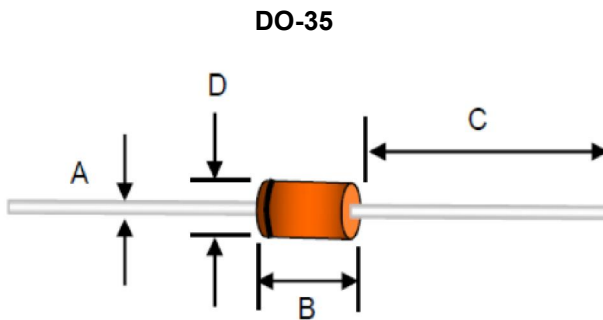
**Fig.3 Admissible Power Dissipation Curve**



**Fig.4 Typical Junction Capacitance**



**PACKAGE OUTLINE DIMENSION**



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	0.34	0.60	0.013	0.024
B	2.90	5.08	0.114	0.200
C	25.40	38.10	1.000	1.500
D	1.30	2.28	0.051	0.090

**MARKING DIAGRAM**



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