

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

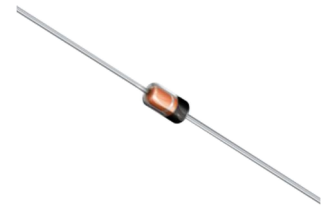
APPLICATIONS

- 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 ± 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 = $1\mu s$, 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

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER	CONDITIONS		SYMBOL	MIN	MAX	UNIT
Forward voltage per diode ⁽¹⁾	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 ⁽²⁾	$I_R = 100 \mu\text{A}$, $T_J = 25^\circ\text{C}$		V_R	100	-	V
	$I_R = 5 \mu\text{A}$, $T_J = 25^\circ\text{C}$			75	-	
Reverse current ⁽²⁾	$V_R = 20 \text{ V}$, $T_J = 25^\circ\text{C}$		I_R	-	25	nA
	$V_R = 75 \text{ V}$, $T_J = 25^\circ\text{C}$			-	5	μA
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 $PW = 30 \text{ ms}$

ORDERING INFORMATION		
PART NO.	PACKAGE	PACKING
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

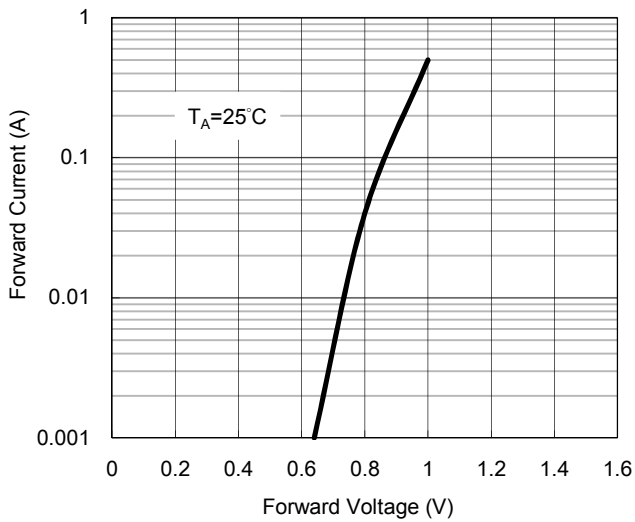


Fig. 2 Reverse Current VS. Reverse Voltage

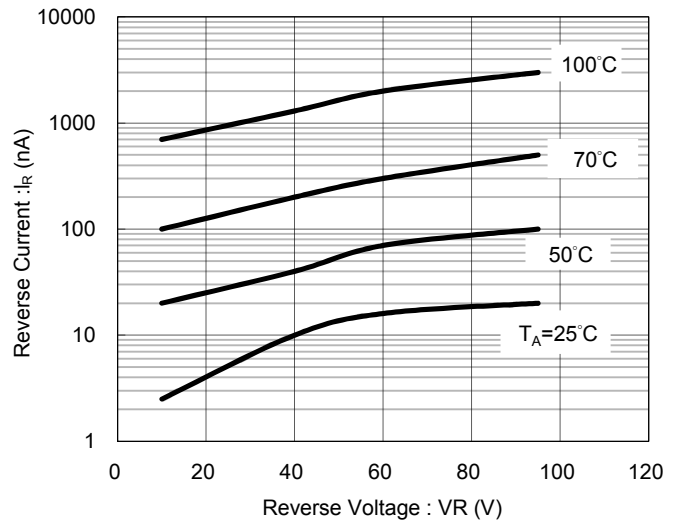


Fig.3 Admissible Power Dissipation Curve

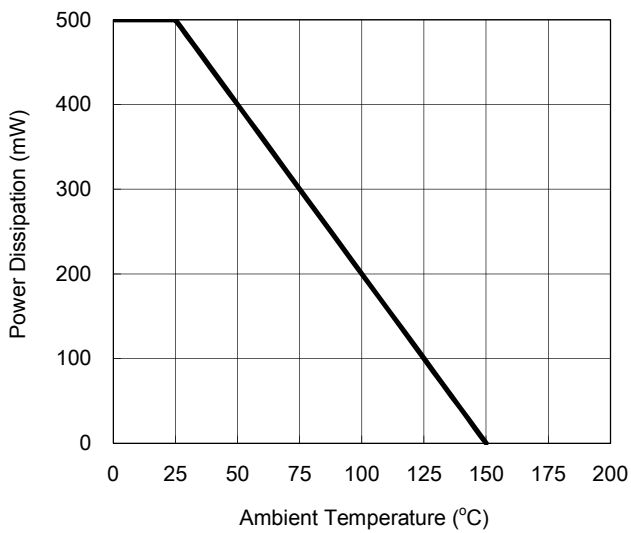
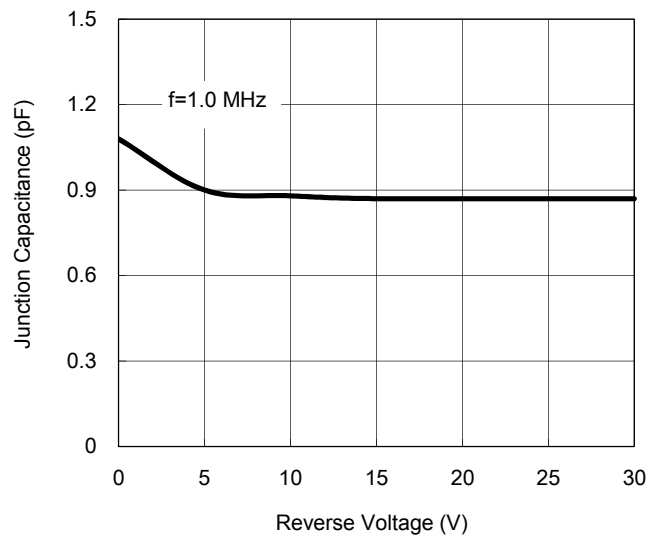
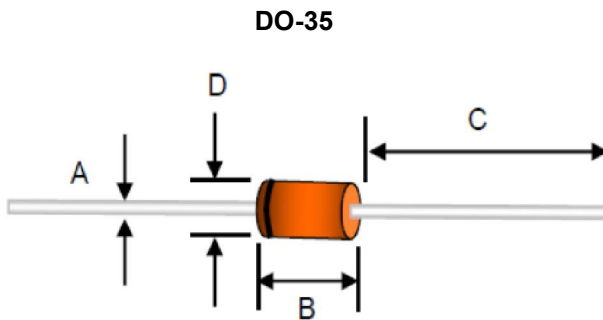


Fig.4 Typical Junction Capacitance



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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