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

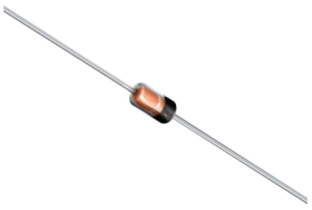
- Switching mode power supply (SMPS)

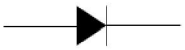
KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	150	mA
V_{RRM}	100	V
I_{FSM}	2	A
V_F at I_F=100mA	1	V
$T_{J\ MAX}$	150	°C
Package	DO-35	
Configuration	Singal die	

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

Pb-Free RoHS COMPLIANT





ABSOLUTE MAXIMUM RATINGS (T_A = 25°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 = 1μs, 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°C unless otherwise noted)						
PARAMETER	**CONDITIONS**		**SYMBOL**	**MIN**	**MAX**	**UNIT**
Forward voltage per diode (1)	1N4448,1N914B	I_F = 5 mA, T_J = 25°C	V_F	0.62	0.72	V
	1N4148	I_F = 10 mA, T_J = 25°C		-	1.00	
	1N4448,1N914B	I_F = 100 mA, T_J = 25°C		-	1.00	
Reverse voltage (2)	I_R = 100 μA, T_J = 25°C		V_R	100	-	V
	I_R = 5 μA, T_J = 25°C			75	-	
Reverse current (2)	V_R = 20 V, T_J = 25°C		I_R	-	25	nA
	V_R = 75 V, T_J = 25°C			-	5	μA
Junction capacitance	1 MHz, V_R=0V		C_J	-	4	pF
Reverse recovery time	I_F= 10mA , V_R=6V, R_L= 100Ω , I_{RR}= 1mA		t_{rr}	-	4	ns

Notes:

1. Pulse test with PW=0.3 ms
2. Pulse test with PW=30 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°C unless otherwise noted)

Fig.1 Typical Forward Characteristics

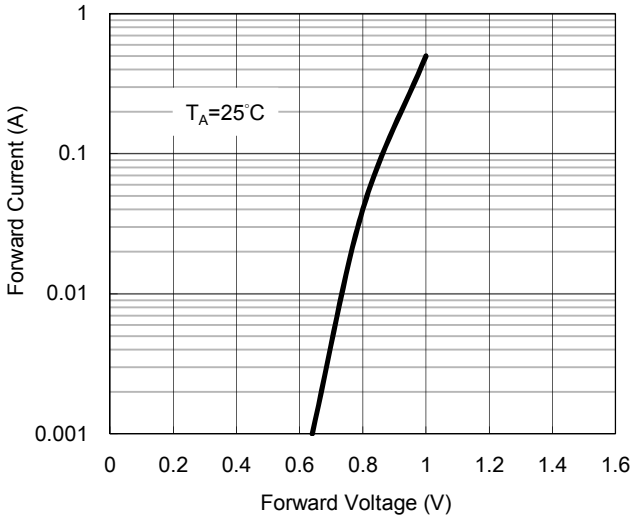


Fig. 2 Reverse Current VS. Reverse Voltage

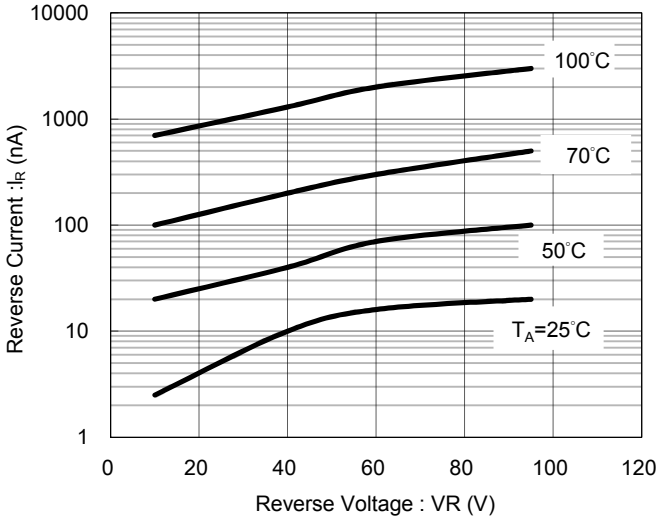


Fig.3 Admissible Power Dissipation Curve

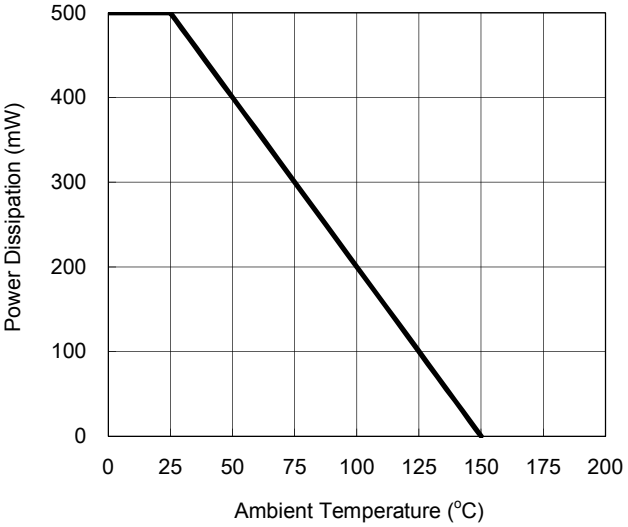
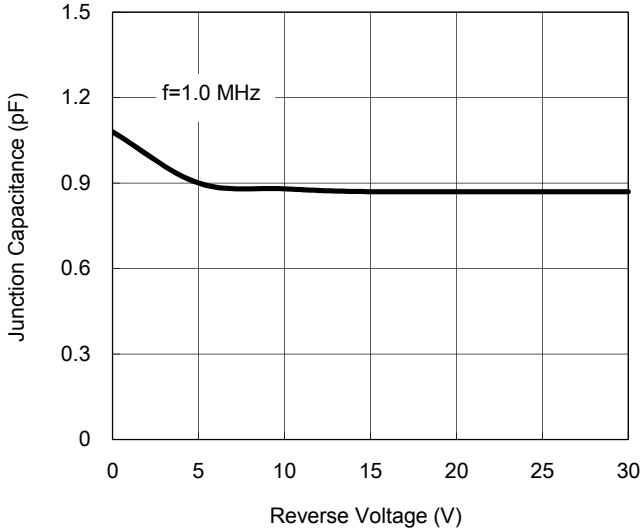
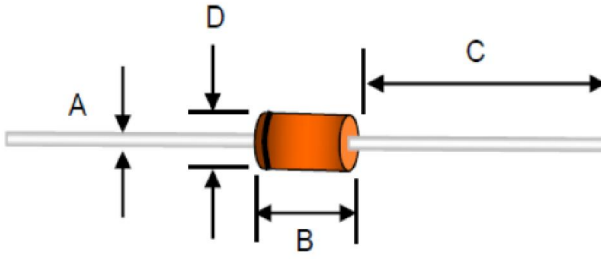


Fig.4 Typical Junction Capacitance



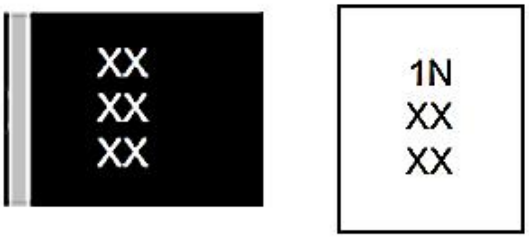
PACKAGE OUTLINE DIMENSION

DO-35



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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