

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

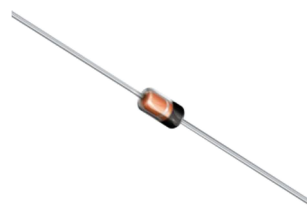
APPLICATIONS

- 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 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 $PW = 0.3\text{ ms}$
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

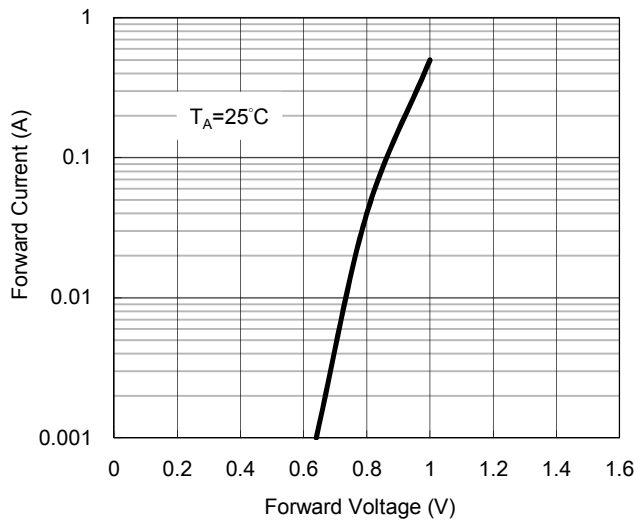


Fig. 2 Reverse Current VS. Reverse Voltage

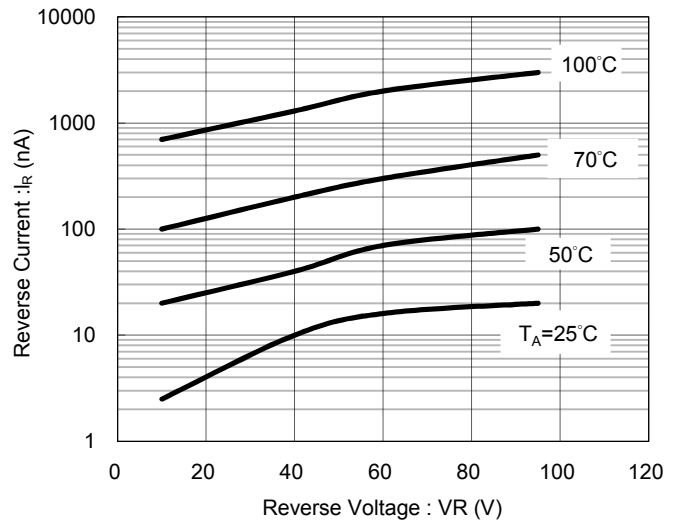


Fig.3 Admissible Power Dissipation Curve

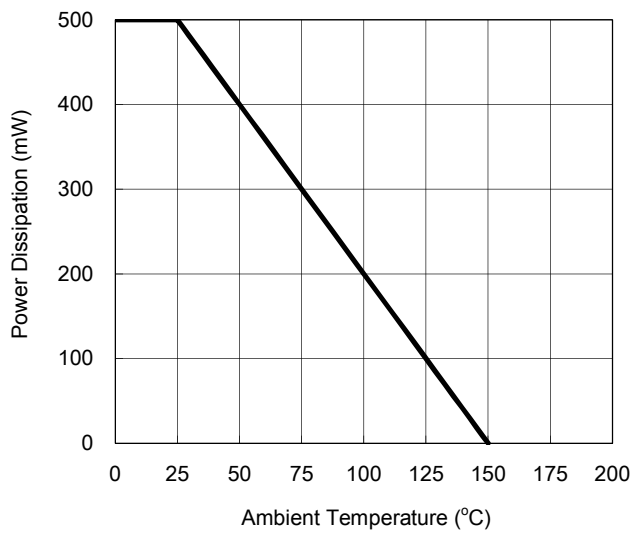
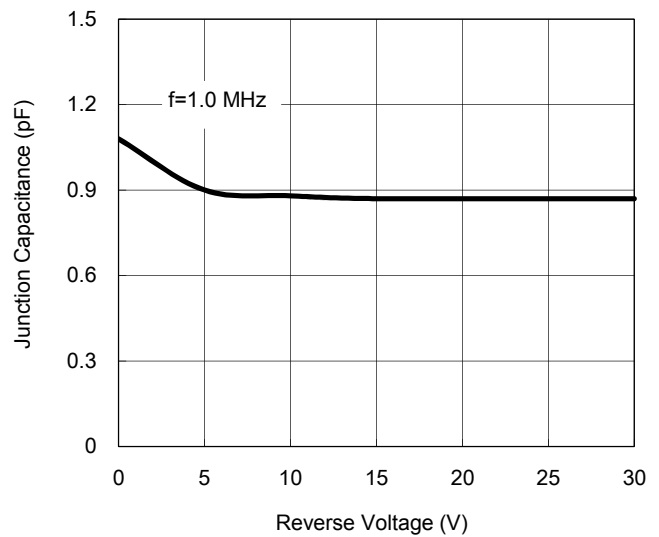
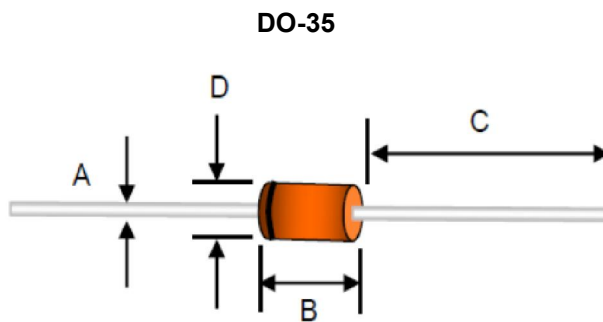


Fig.4 Typical Junction Capacitance



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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