150mA, 75V 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**
$I_{F(AV)}$	150	mA
V_{RRM}	75	V
I_{FSM}	4	A
V_F at I_F=50mA	1	V
$T_{J\ MAX}$	125	°C
Package	1005	
Configuration	Single dice	

MECHANICAL DATA

- Case: 1005
- Molding compound meets UL 94 V-0 flammability rating
- Moisture sensitivity level: level 1, per J-STD-020
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Matte Au plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: Indicated by cathode band
- Weight: 6 mg (approximately)

Pb-Free RoHS COMPLIANT

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)				
PARAMETER		**SYMBOL**	**TS4148 RWG**	**UNIT**
Repetitive peak reverse voltage		V_{RRM}	75	V
Forward current		$I_{F(AV)}$	150	mA
Non-Repetitive Peak Forward Surge Current	Pulse Width=1μs Pulse Width=1ms	I_{FSM}	4 1	A
Junction temperature range		T_J	-40 to +125	°C
Storage temperature range		T_{STG}	-40 t0 +125	°C

THERMAL PERFORMANCE			
PARAMETER	**SYMBOL**	**LIMIT**	**UNIT**
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	500	°C/W

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)					
PARAMETER	**CONDITIONS**	**SYMBOL**	**TYP**	**MAX**	**UNIT**
Forward voltage per diode (1)	I_F = 50mA, T_J = 25°C	V_F	-	1	V
Reverse current @ rated V_R per diode (2)	V_R=20V T_J = 25°C	I_R	-	25	nA
	V_R=75V T_J = 25°C		-	2.5	μA
Junction capacitance	1 MHz, V_R=0V	C_J	-	4	pF

Notes:

1. Pulse test with PW=0.3 ms
2. Pulse test with PW=30 ms

ORDERING INFORMATION				
PART NO.	**PACKING CODE**	**PACKING CODE SUFFIX(*)**	**PACKAGE**	**PACKING**
TS4148 (Note 1)	RW	G	1005	4K / 7" Reel

Notes:

*: optional available

EXAMPLE				
EXAMPLE P/N	**PART NO.**	**PACKING CODE**	**PACKING CODE SUFFIX**	**DESCRIPTION**
TS4148 RWG	TS4148	RW	G	Green compound

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Typical Forward Characteristics

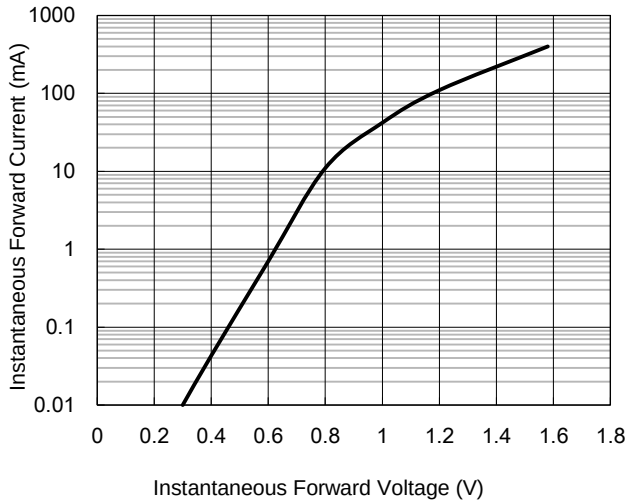


Fig.2 Reverse Current VS. Reverse Voltage

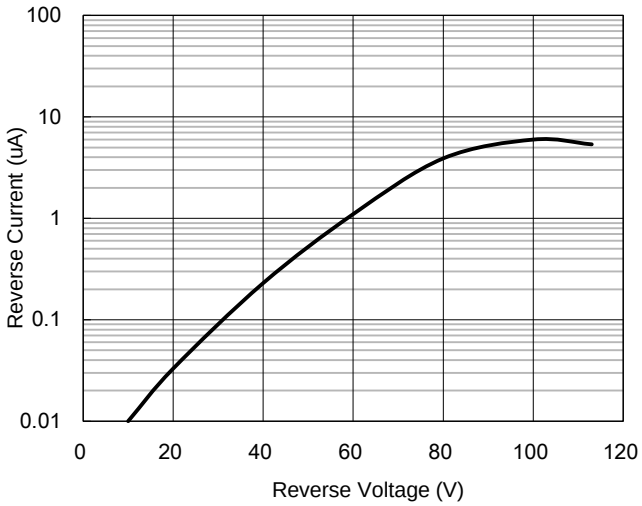


Fig.3 Admissible Power Dissipation Curve

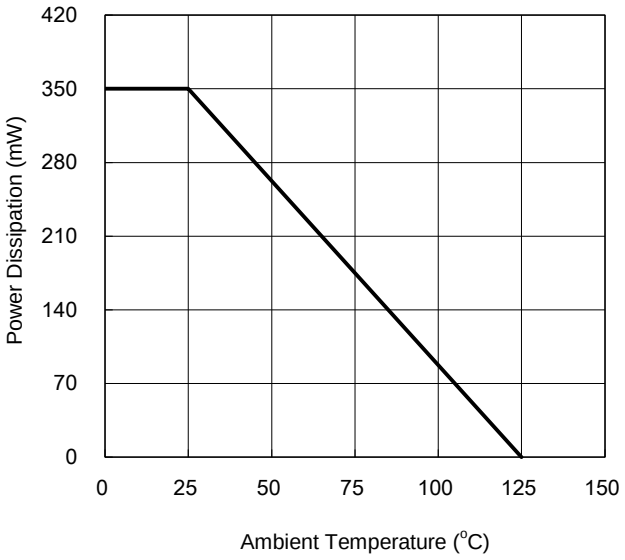
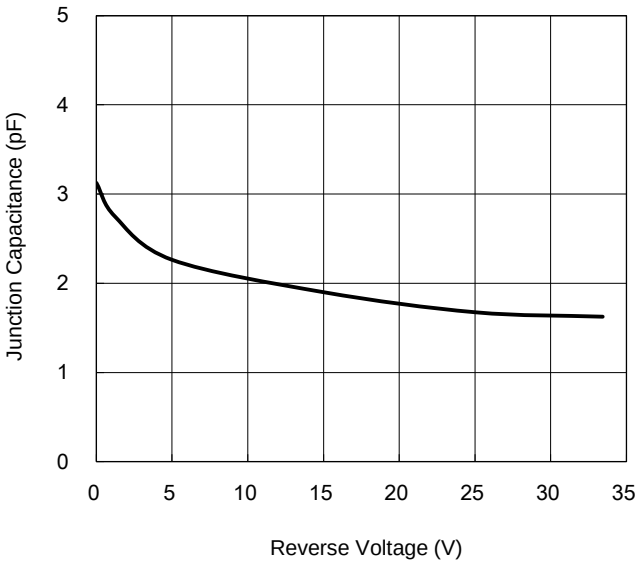


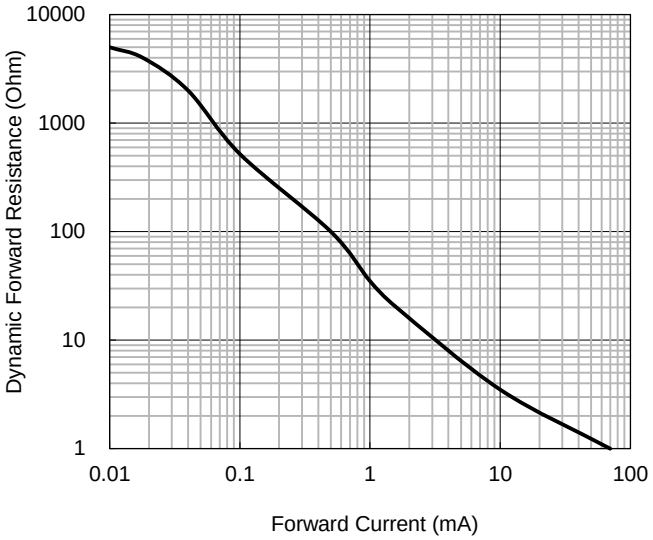
Fig.4 Typical Junction Capacitance



CHARACTERISTICS CURVES

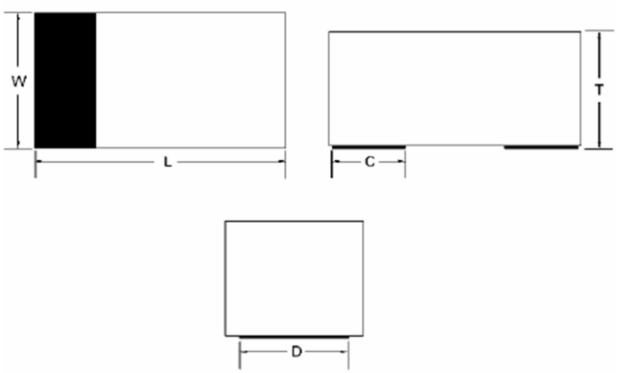
(T_A = 25°C unless otherwise noted)

Fig.5 Forward Resistance VS. Forward Current



PACKAGE OUTLINE DIMENSION

1005



DIM.	Unit(mm)			Unit(inch)		
	Min	Typ	Max	Min	Typ	Max
L	2.40	-	2.60	0.094	-	0.102
W	1.10	-	1.30	0.043	-	0.051
T	0.70	-	0.90	0.028	-	0.035
C	-	0.50	-	-	0.020	-
D	-	1.00	-	-	0.039	-

MARKING DIAGRAM

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