

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)



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ 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=1 μ s Pulse Width=1ms I_{FSM}	4 1	A
Junction temperature range	T_J	-40 to +125	°C
Storage temperature range	T_{STG}	-40 to +125	°C

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

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 50\text{mA}$, $T_J = 25^\circ\text{C}$	V_F	-	1	V
Reverse current @ rated V_R per diode ⁽²⁾	$V_R = 20\text{V}$ $T_J = 25^\circ\text{C}$	I_R	-	25	nA
	$V_R = 75\text{V}$ $T_J = 25^\circ\text{C}$		-	2.5	μA
Junction capacitance	1 MHz, $V_R = 0\text{V}$	C_J	-	4	pF

Notes:

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

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

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

Fig.1 Typical Forward Characteristics

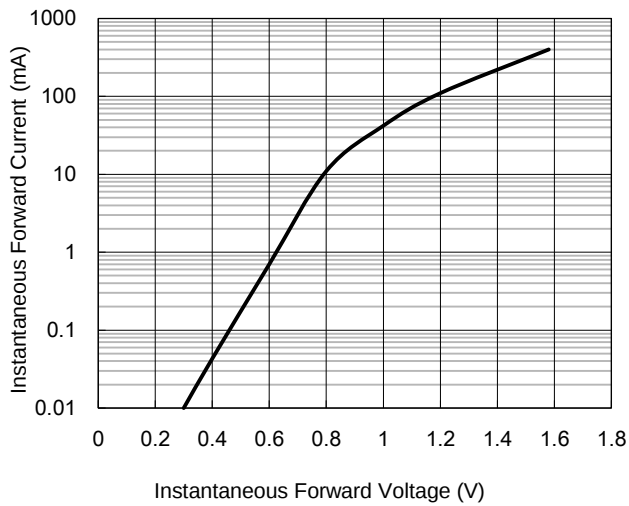


Fig.2 Reverse Current VS. Reverse Voltage

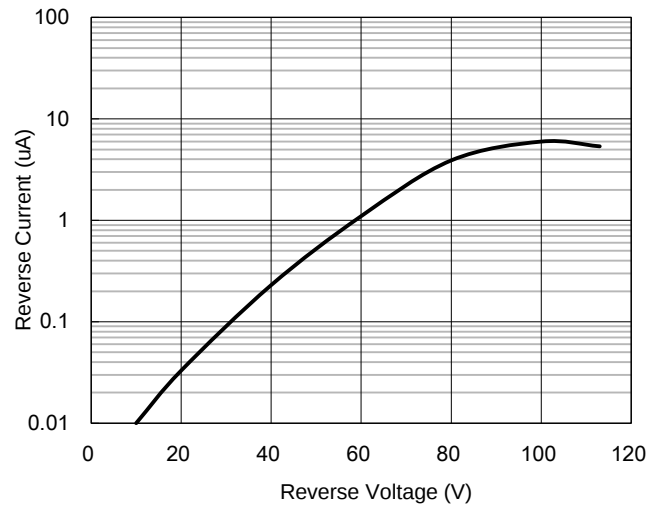


Fig.3 Admissible Power Dissipation Curve

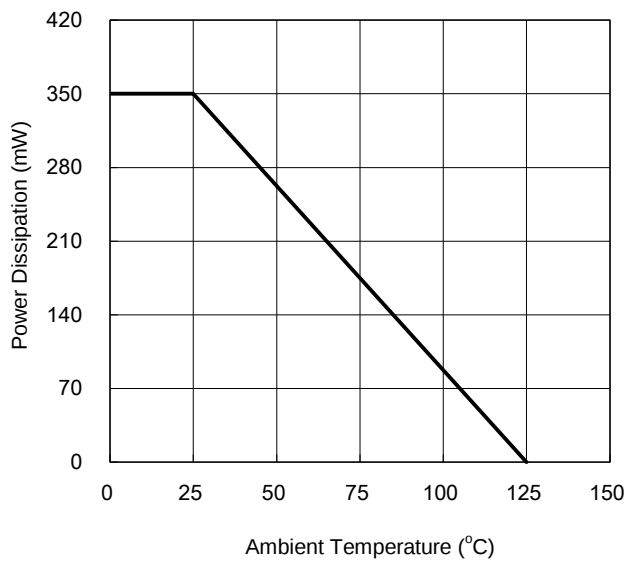
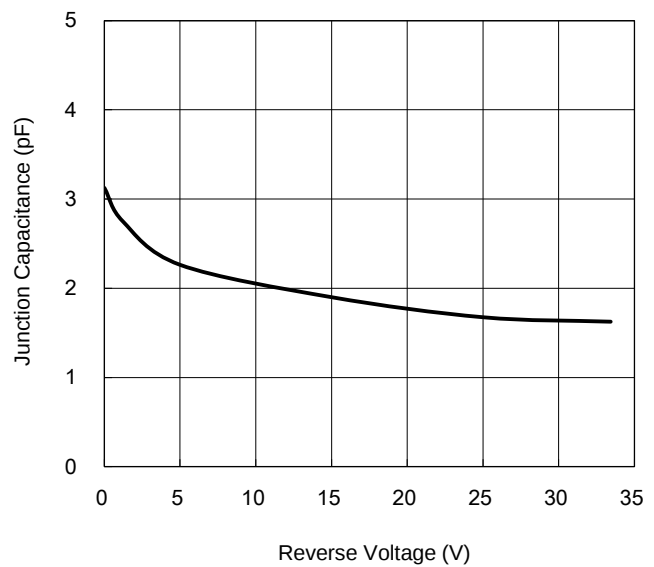


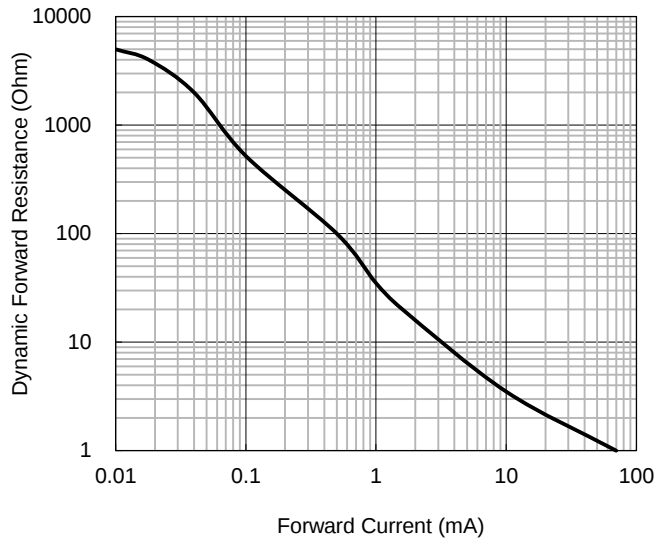
Fig.4 Typical Junction Capacitance



CHARACTERISTICS CURVES

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

**Fig.5 Forward Resistance VS.
Forward Current**



1005

W

L

T

C

D

MARKING DIAGRAM



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