150mA, 75V Switching Diode

FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- Compliance to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
P_D	500	mW
$I_{F(AV)}$	150	mA
V_{RRM}	75	V
I_{FSM}	2	A
V_F at I_F=100mA	1.00	V
T_J Max.	150	°C
Package	1206 (Ceramics)	
Configuration	Single die	

APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application
- On-board DC/DC converter

MECHANICAL DATA

- Case: 1206(Ceramics)
- Molding compound meets UL flammability classification rating 94HB
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: Indicated by cathode band
- Weight: 0.01g (approximately)

Pb-Free RoHS COMPLIANT HALOGEN FREE

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

PARAMETER		SYMBOL	VALUE	UNIT
Power dissipation		P_D	500	mW
Repetitive peak reverse voltage		V_{RRM}	75	V
Non-repetitive peak reverse voltage		V_{RSM}	100	V
Forward current		$I_{F(AV)}$	150	mA
Repetitive peak forward current		I_{FRM}	300	mA
Non-repetitive peak forward surge current	tp = 1s square wave	I_{FSM}	0.5	A
	tp = 8.3ms single half sine wave		2.0	
Junction temperature range		T_J	-55 to +150	°C
Storage temperature range		T_{STG}	-55 to +150	°C

THERMAL PERFORMANCE			
PARAMETER	**SYMBOL**	**TYP.**	**UNIT**
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	375	°C/W

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)					
PARAMETER	**CONDITIONS**	**SYMBOL**	**TYP.**	**MAX.**	**UNIT**
Reverse breakdown voltage [2]	I_R=100μA, T_J=25°C	V_R	75	-	V
Forward voltage per diode [1]	I_F=100mA, T_J=25°C	V_F	-	1	V
Reverse recovery time	I_F=10mA, I_R=10mA, R_L=100Ω	t_{rr}	-	4	ns
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		-	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		
ORDERING CODE	**PACKAGE**	**PACKING**
TS4148 RXG	1206	5K / 7" Reel
TS4148 RAG		10K / 13" Reel

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig. 1 Typical Forward Characteristics

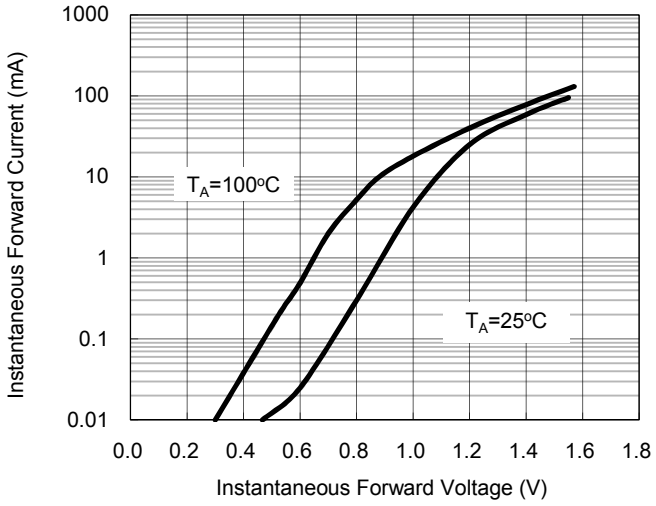


Fig. 2 Reverse Current VS. Reverse Voltage

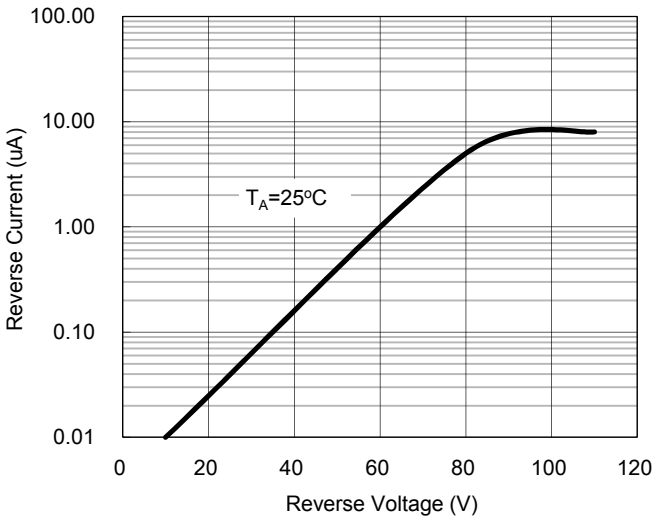


Fig. 3 Admissible Power Dissipation Curve

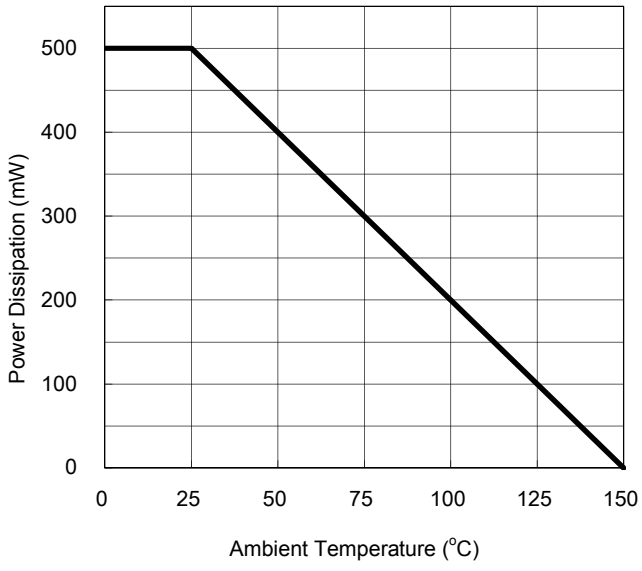
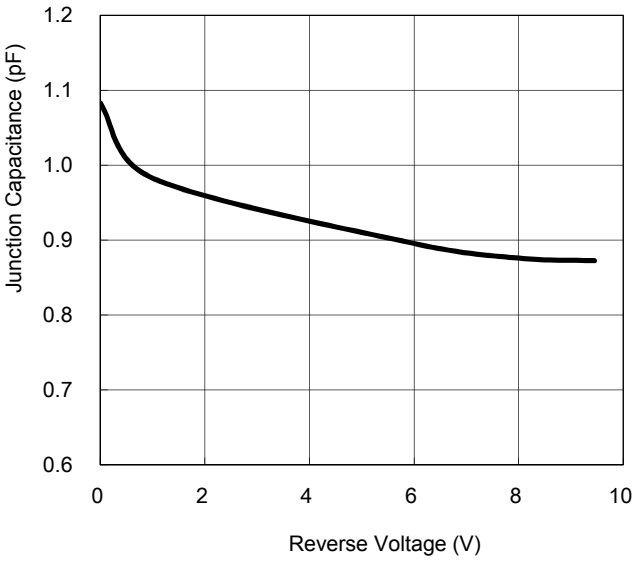


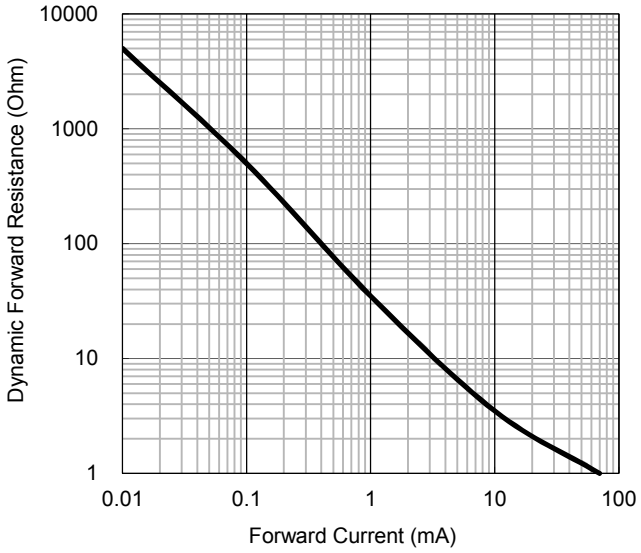
Fig. 4 Typical Junction Capacitance



CHARACTERISTICS CURVES

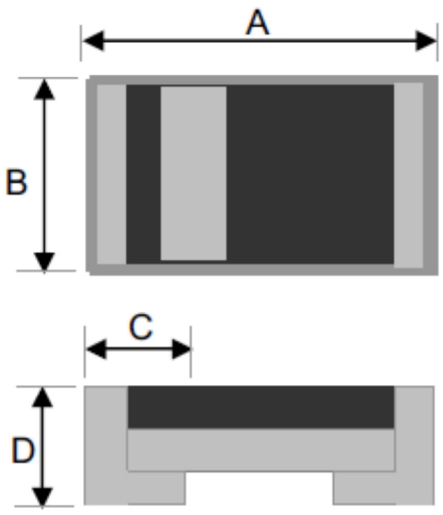
(T_A = 25°C unless otherwise noted)

Fig. 5 Forward Resistance VS. Forward Current



PACKAGE OUTLINE DIMENSION

1206



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	3.00	3.40	0.118	0.134
B	1.30	1.70	0.051	0.067
C	0.35	0.75	0.014	0.030
D	0.65	0.85	0.026	0.033

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