

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
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

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)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
P_D	500	mW
I_F	150	mA
V_{RRM}	75	V
I_{FSM}	2	A
V_F at $I_F = 10\text{mA}$	1	V
T_J Max	150	°C
Package	1206 (Ceramics)	
Configuration	Single die	



1206 (Ceramics)



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ 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	I_{FSM}	0.5	A
		2.0	A
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 ($T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Reverse breakdown voltage ⁽²⁾	$I_R = 100\mu\text{A}, T_J = 25^\circ\text{C}$	V_R	75	-	V
Forward voltage ⁽¹⁾	$I_F = 10\text{mA}, T_J = 25^\circ\text{C}$	V_F	-	1.00	V
	$I_F = 100\text{mA}, T_J = 25^\circ\text{C}$		-	1.25	V
Reverse recovery time	$I_F = 10\text{mA}, I_R = 10\text{mA}, R_L = 100\Omega$	t_{rr}	-	4	ns
Reverse current @ rated V_R ⁽²⁾	$V_R = 20\text{V}, T_J = 25^\circ\text{C}$	I_R	-	25	nA
	$V_R = 75\text{V}, T_J = 25^\circ\text{C}$		-	5	μA
Junction capacitance	1MHz, $V_R = 0\text{V}$	C_J	-	4	pF

Notes:

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

ORDERING INFORMATION		
ORDERING CODE	PACKAGE	PACKING
TS4148 RXG	1206 (Ceramics)	5K / 7" Reel
TS4148 RAG	1206 (Ceramics)	10K / 13" Reel

CHARACTERISTICS CURVES

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

Fig.1 Typical Forward Characteristics

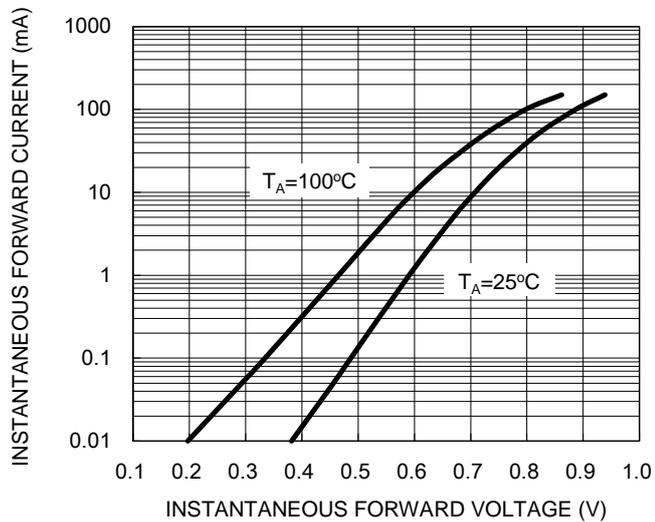


Fig.2 Reverse Current VS. Reverse Voltage

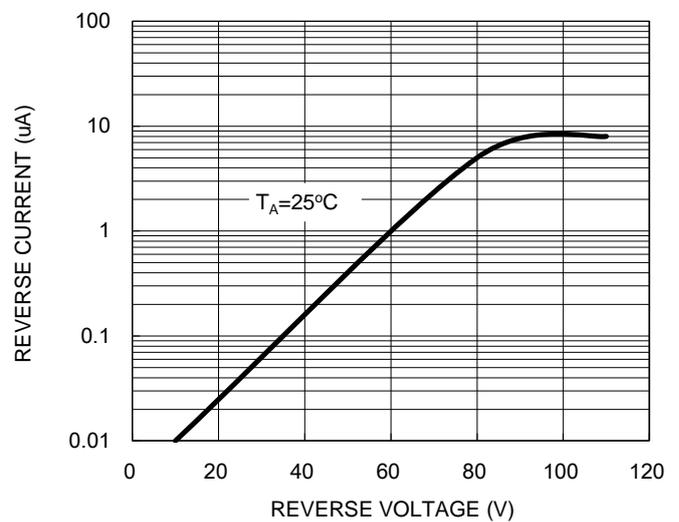


Fig.3 Admissible Power Dissipation Curve

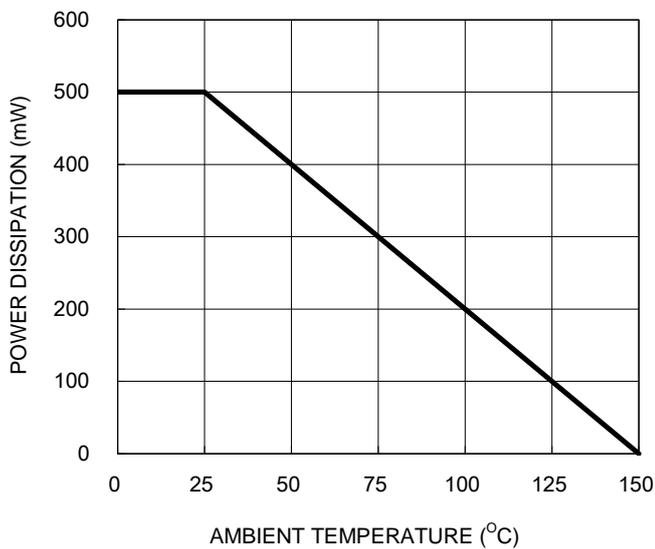
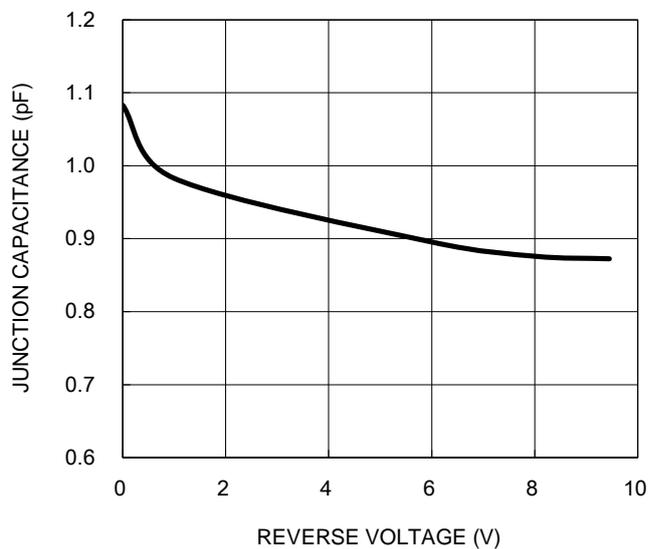


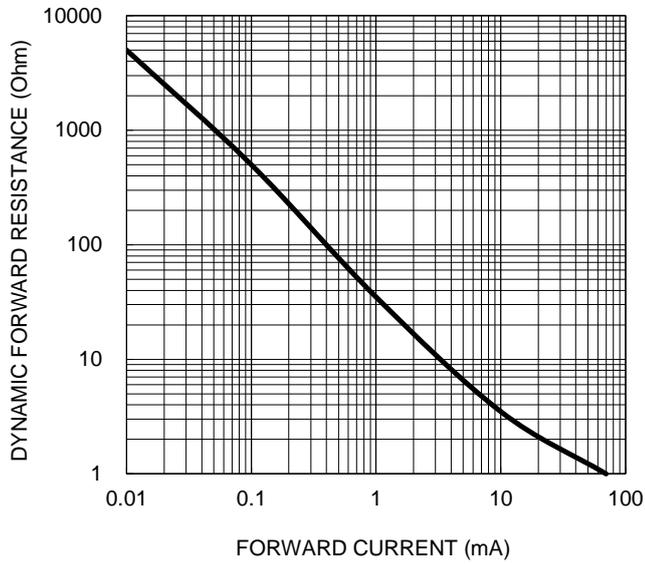
Fig.4 Typical Junction Capacitance



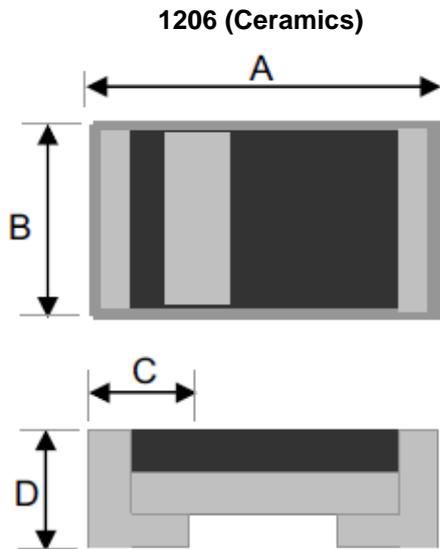
CHARACTERISTICS CURVES

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

Fig.5 Forward Resistance VS. Forward Current



PACKAGE OUTLINE DIMENSION



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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