

100mA, 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
- 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)
- Adapters
- Lighting application
- On-board DC/DC converter

MECHANICAL DATA

- Case: 0603(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: 2.7 mg (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	100	mA
V_{RRM}	75	V
I_{FSM}	0.8	A
V_F at $I_F=10mA$ V_F at $I_F=100mA$	1.00 1.25	V
T_J Max.	150	°C
Package	0603 (Ceramics)	
Configuration	Single die	



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage	V_{RRM}	75	V
Mean forward current	I_F	100	mA
Non-repetitive peak forward surge current	I_{FSM}	at $t < 1s$ 0.4	A
		at $t \leq 8.3ms$ 0.8	
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
Forward voltage per diode ⁽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	
Reverse current @ rated V_R per diode ⁽²⁾	$V_R=20\text{V}$ $T_J=25^\circ\text{C}$	I_R	-	25	nA
	$V_R=75\text{V}$ $T_J=25^\circ\text{C}$		-	5	μA
Reverse recovery time	$I_F=10\text{mA}$, $I_R=10\text{mA}$, $R_L=100\Omega$	t_{rr}	-	4	ns
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

ORDERING CODE	PACKAGE	PACKING
TS4148C RZG	0603	5K / 7" Reel
TS4148C RCG		10K / 13" Reel

CHARACTERISTICS CURVES

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

Fig. 1 Typical Forward Characteristics

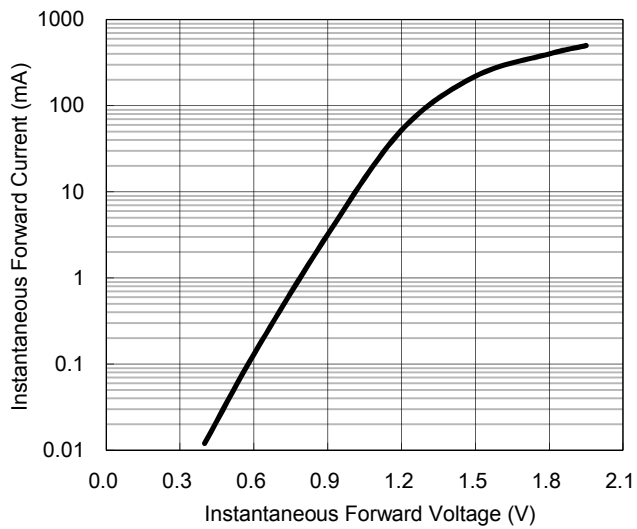


Fig. 2 Typical Reverse Characteristics

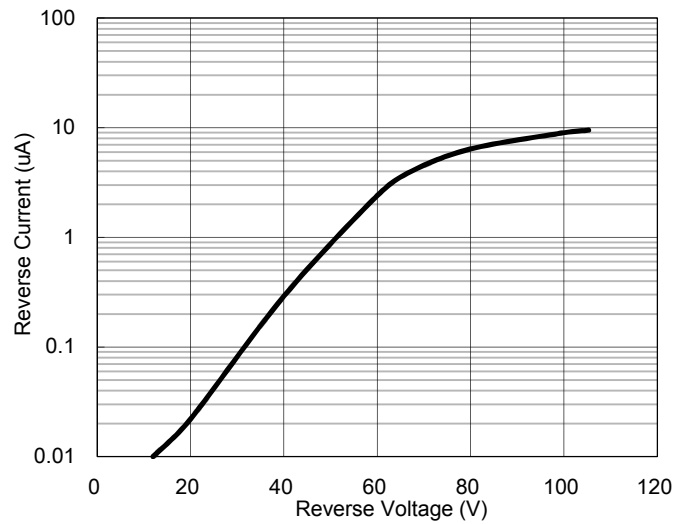


Fig. 3 Admissible Power Dissipation Curve

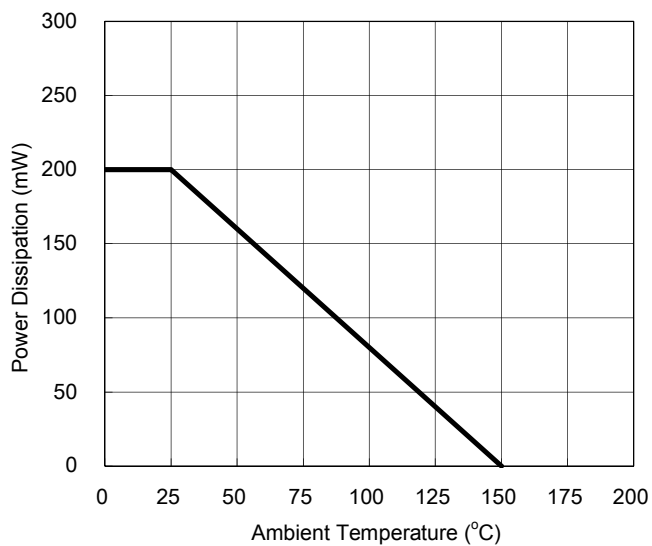
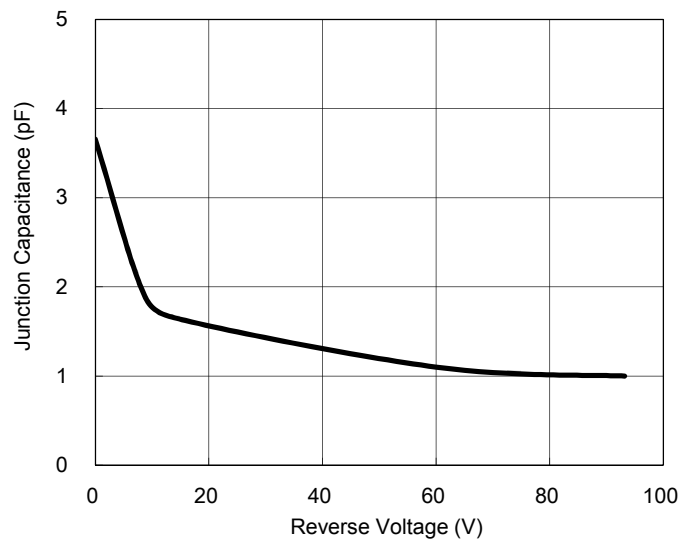
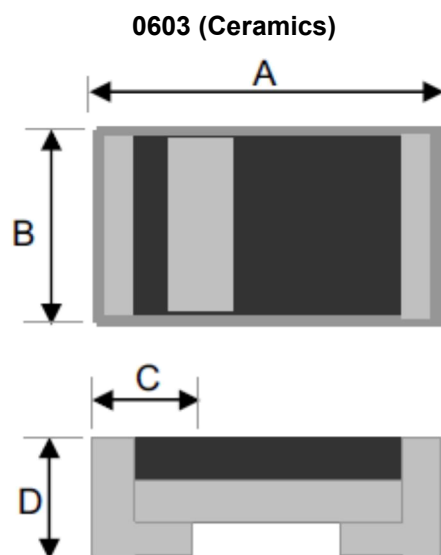


Fig. 4 Typical Junction Capacitance



PACKAGE OUTLINE DIMENSION



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.45	1.65	0.057	0.065
B	0.70	0.90	0.028	0.035
C	0.25	0.45	0.010	0.018
D	0.55	0.75	0.022	0.030

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