

## 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 $I_F=10mA$	1.00	V
$V_F$ at $I_F=100mA$	1.25	
$T_J$ 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
		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

<b>THERMAL PERFORMANCE</b>			
<b>PARAMETER</b>	<b>SYMBOL</b>	<b>TYP.</b>	<b>UNIT</b>
Junction-to-ambient thermal resistance	$R_{\theta JA}$	375	$^{\circ}C/W$

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^{\circ}C$ unless otherwise noted)					
<b>PARAMETER</b>	<b>CONDITIONS</b>	<b>SYMBOL</b>	<b>TYP.</b>	<b>MAX.</b>	<b>UNIT</b>
Forward voltage per diode <sup>(1)</sup>	$I_F=10mA, T_J=25^{\circ}C$	$V_F$	-	1.00	V
	$I_F=100mA, T_J=25^{\circ}C$		-	1.25	
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	$V_R=20V, T_J=25^{\circ}C$	$I_R$	-	25	nA
	$V_R=75V, T_J=25^{\circ}C$		-	5	$\mu A$
Reverse recovery time	$I_F=10mA, I_R=10mA, R_L=100\Omega$	$t_{rr}$	-	4	ns
Junction capacitance	1 MHz, $V_R=0V$	$C_J$	-	4	pF

**Notes:**

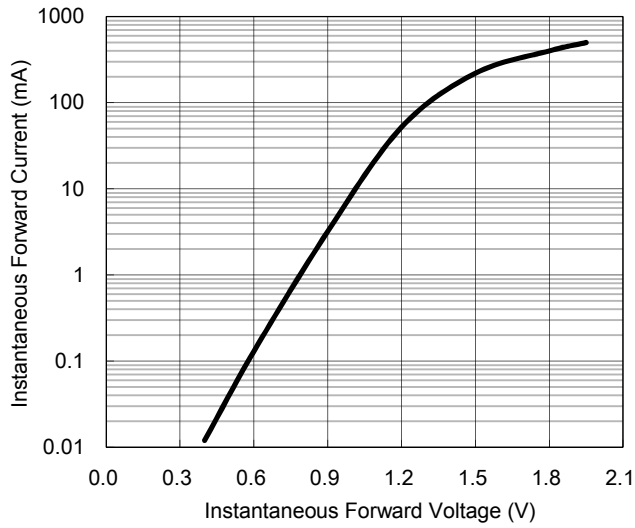
1. Pulse test with  $PW=0.3$  ms
2. Pulse test with  $PW=30$  ms

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

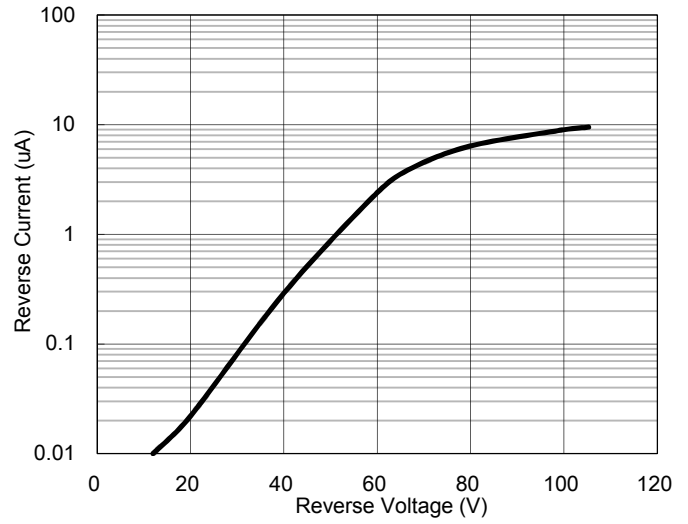
**CHARACTERISTICS CURVES**

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

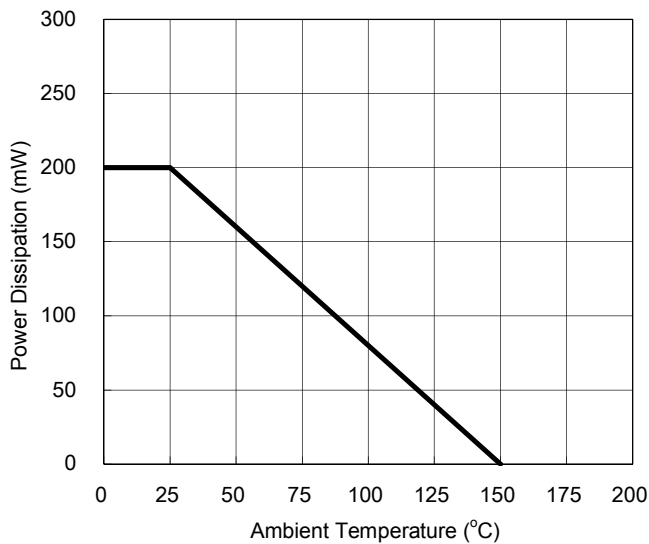
**Fig. 1 Typical Forward Characteristics**



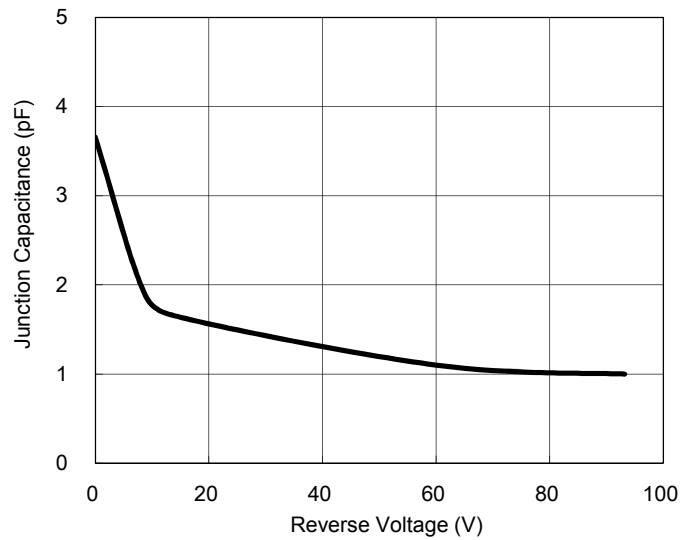
**Fig. 2 Typical Reverse Characteristics**



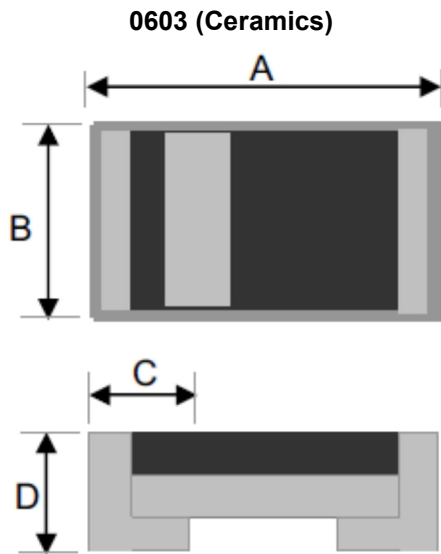
**Fig. 3 Admissible Power Dissipation Curve**



**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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