

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

MECHANICAL DATA

- Case: 0603(Ceramics)
- Molding compound: UL flammability classification rating 94HB
- Terminal: Moisture sensitivity level: level 1, per J-STD-020
- Packing code with suffix "G" means green compound (halogen-free)
- Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: Indicated by cathode band
- Weight: 4 mg (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_{F(AV)}$	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 dice	



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	PART NUMBER	UNIT
Repetitive peak reverse voltage	V_{RRM}	75	V
Forward current	$I_{F(AV)}$	150	mA
Non-repetitive peak forward surge current	I_{FSM}	0.4	A
		0.8	
Junction temperature range	T_J	-55 to +150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	LIMIT	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	mA
	$V_R = 75\text{V}, T_J = 25^\circ\text{C}$		--	5	μA
Junction capacitance	1 MHz, $V_R = 0\text{V}$	C_J	--	4	pF

Notes:

- Pulse test with $PW = 0.3\text{ ms}$
- Pulse test with $PW = 30\text{ ms}$

ORDERING INFORMATION

PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
TS4148C (Note 1)	RZ	G	0603	5K / 7" Reel
	RC			10K / 13" Reel

Notes:

- Whole series with green compound

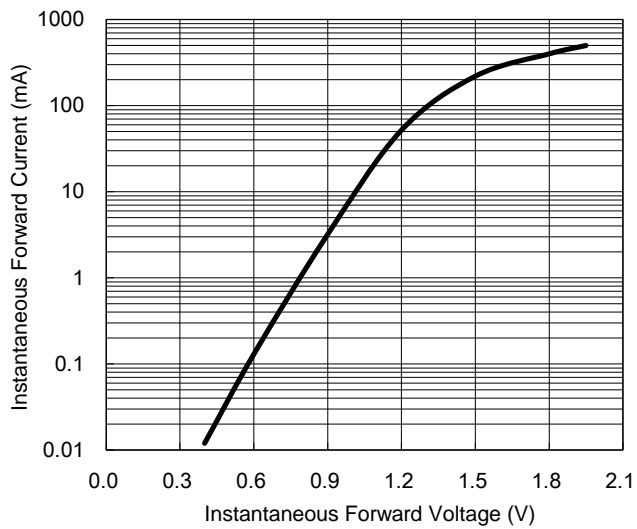
EXAMPLE

EXAMPLE P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TS4148C RZG	TS4148C	RZ	G	Green compound

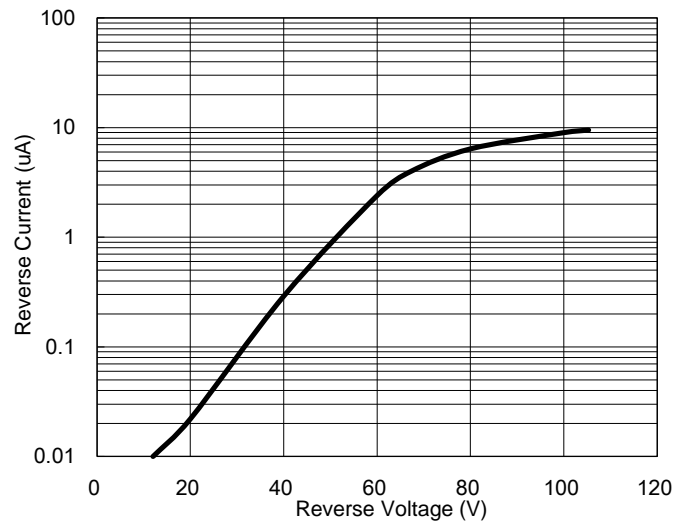
CHARACTERISTICS CURVES

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

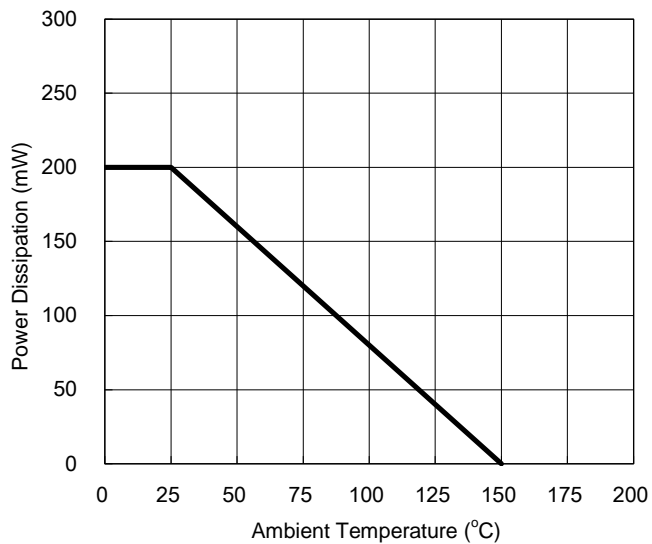
Typical Forward Characteristics



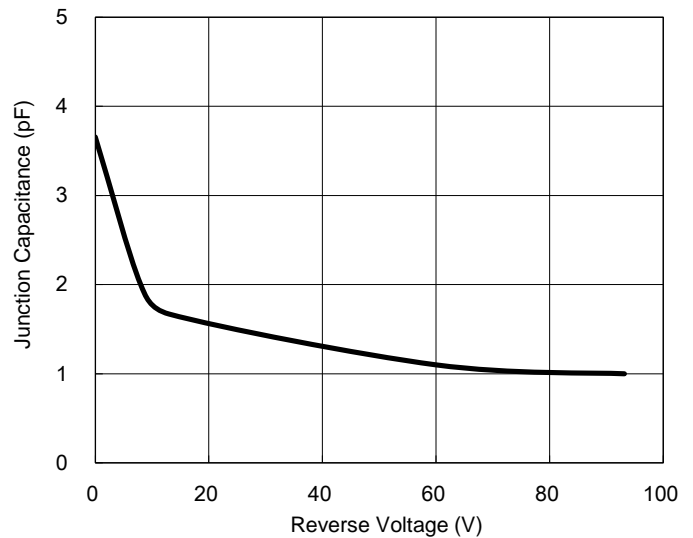
Typical Reverse Characteristics



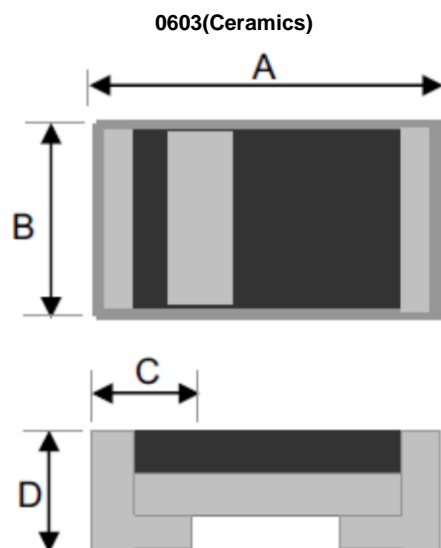
Admissible Power Dissipation Curve



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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