

125mA, 100V 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)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_{F(AV)}$	125	mA
V_{RRM}	100	V
I_{FSM}	1.0	A
V_F at $I_F=100mA$	1.0	V
$T_{J\ MAX}$	125	°C
Package	0603	
Configuration	Single dice	

MECHANICAL DATA

- Case: 0603
- Molding compound: UL flammability classification rating 94V-0
- Moisture sensitivity level: level 1, per J-STD-020
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Matte Au plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: Indicated by cathode band
- Weight: 3 mg (approximately)



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	PART NUMBER	UNIT
Marking code on the device		S5	
Repetitive peak reverse voltage	V_{RRM}	100	V
Forward current	$I_{F(AV)}$	125	mA
Non-Repetitive Peak Forward Surge Current	Pulse Width=1 μ s Pulse Width=8.3ms I_{FSM}	2 1	A
Junction temperature range	T_J	-40 to +125	°C
Storage temperature range	T_{STG}	-40 to +125	°C

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	LIMIT	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	666	°C/W

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 100\text{mA}$, $T_J = 25^\circ\text{C}$	V_F	0.62	1.00	V
	$I_F = 5\text{mA}$, $T_J = 25^\circ\text{C}$			0.72	
Reverse current @ rated V_R per diode ⁽²⁾	$V_R = 20\text{V}$ $T_J = 25^\circ\text{C}$	I_R	--	25	nA
	$V_R = 80\text{V}$ $T_J = 25^\circ\text{C}$		--	100	
Junction capacitance	1 MHz, $V_R = 0.5\text{V}$	C_J	--	9	pF

Notes:

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

ORDERING INFORMATION

PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
TS4448 (Note 1)	RG	G	0603	4K / 7" Reel

Notes:

1. Whole series with green compound

EXAMPLE

EXAMPLE P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TS4448 RGG	TS4448	RG	G	Green compound

CHARACTERISTICS CURVES

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

Fig.1 Typical Forward Characteristics

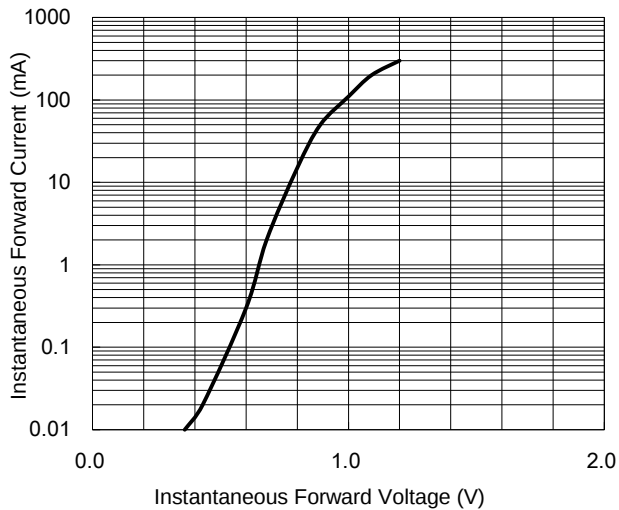


Fig.2 Reverse Current VS. Reverse Voltage

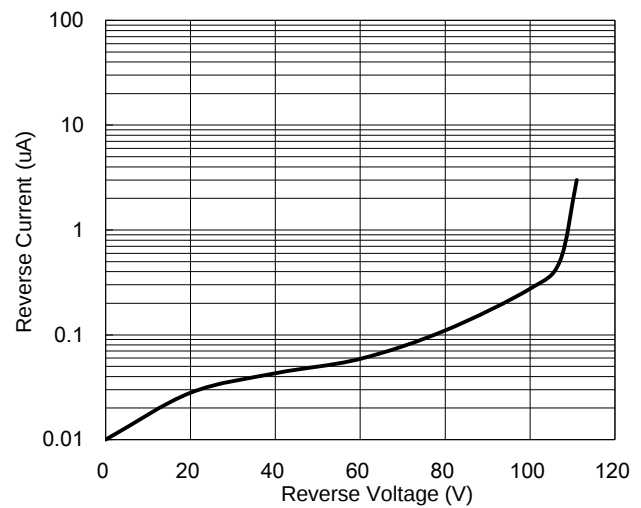


Fig.3 Admissible Power Dissipation Curve

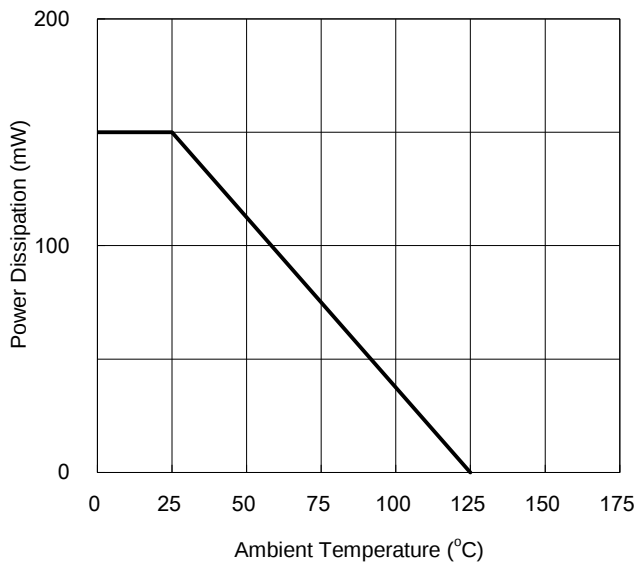
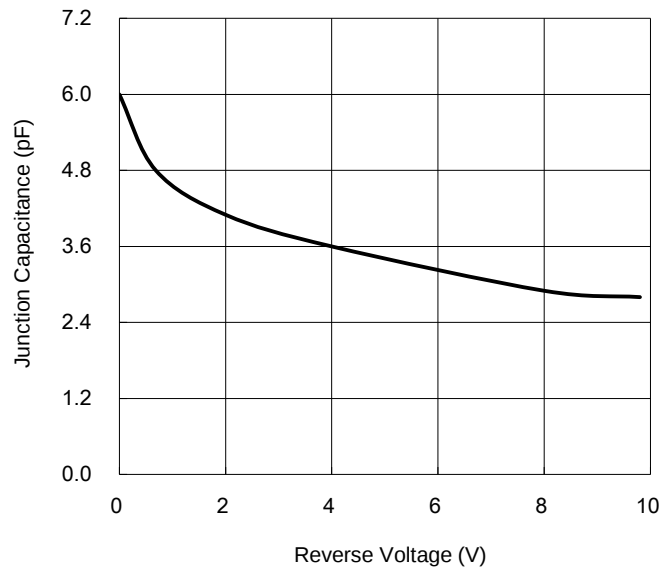


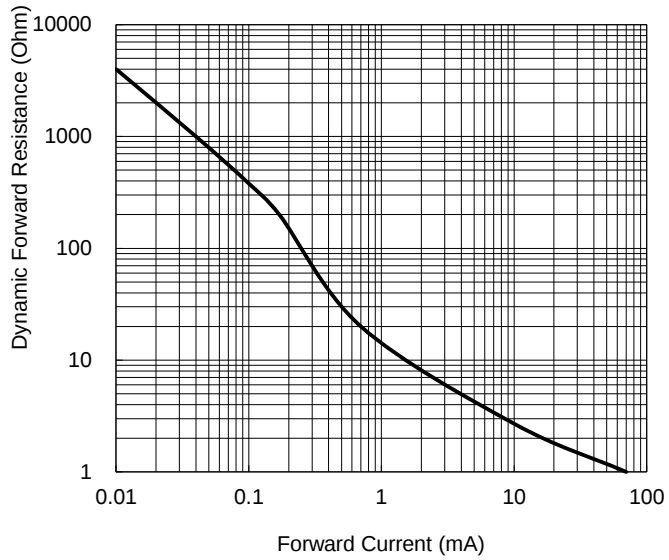
Fig.4 Typical Junction Capacitance



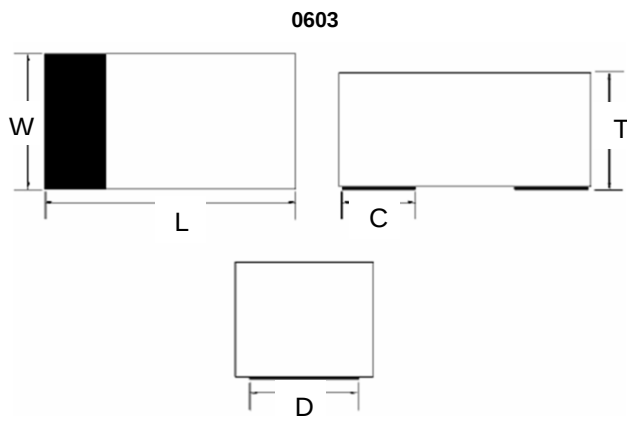
CHARACTERISTICS CURVES

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

**Fig.5 Forward Resistance VS.
Forward Current**



PACKAGE OUTLINE DIMENSION



DIM.	Unit(mm)			Unit(inch)		
	Min	Typ	Max	Min	Typ	Max
L	1.60	-	1.80	0.063	-	0.071
W	0.80	-	1.00	0.031	-	0.039
T	0.70	-	0.85	0.028	-	0.033
C	-	0.45	-	-	0.018	-
D	-	0.70	-	-	0.028	-

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