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)

Pb-Free RoHS COMPLIANT HALOGEN FREE

ABSOLUTE MAXIMUM RATINGS (T_A = 25°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=1μs 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°C unless otherwise noted)					
PARAMETER	**CONDITIONS**	**SYMBOL**	**TYP**	**MAX**	**UNIT**
Forward voltage per diode (1)	I_F = 100mA, T_J = 25°C	V_F	0.62	1.00	V
	I_F = 5mA, T_J = 25°C			0.72	
Reverse current @ rated V_R per diode (2)	V_R=20V T_J = 25°C	I_R	--	25	nA
	V_R=80V T_J = 25°C		--	100	
Junction capacitance	1 MHz, V_R=0.5V	C_J	--	9	ρF

Notes:

1. Pulse test with PW=0.3 ms
2. Pulse test with PW=30 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°C unless otherwise noted)

Fig.1 Typical Forward Characteristics

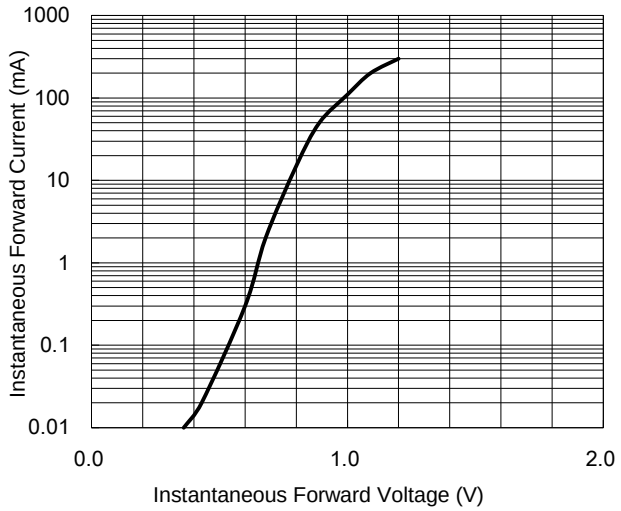


Fig.2 Reverse Current VS. Reverse Voltage

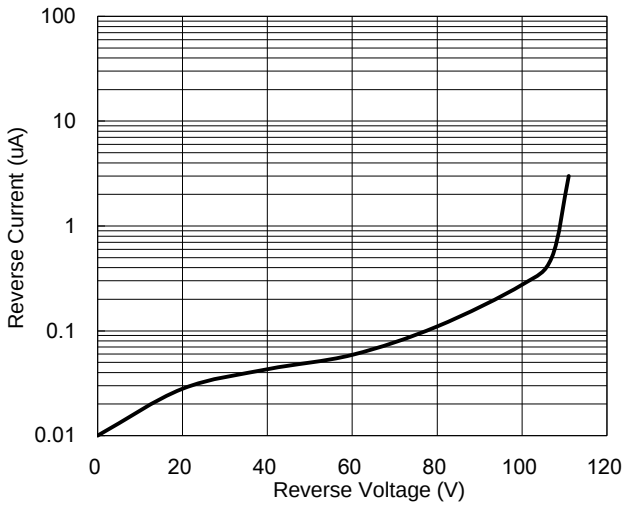


Fig.3 Admissible Power Dissipation Curve

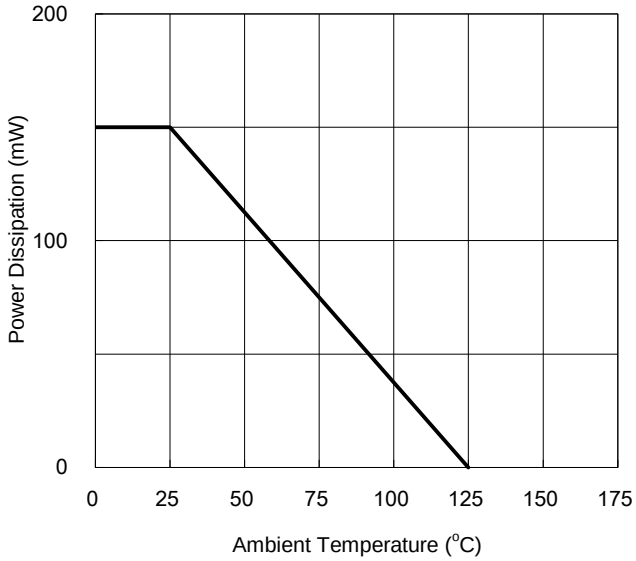
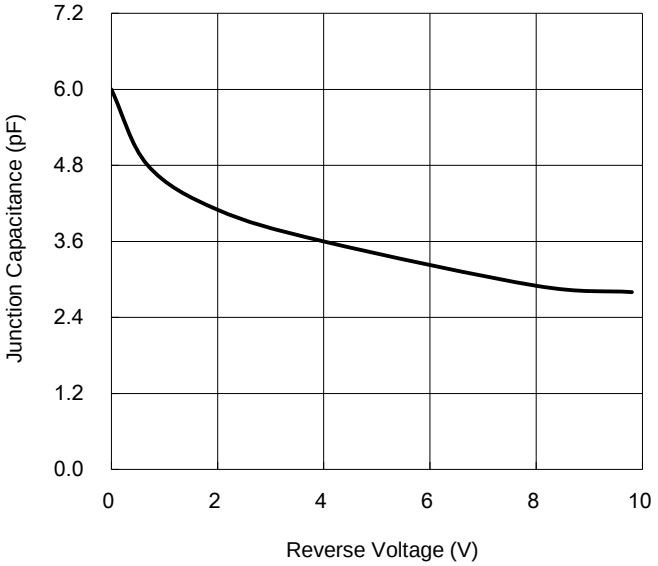


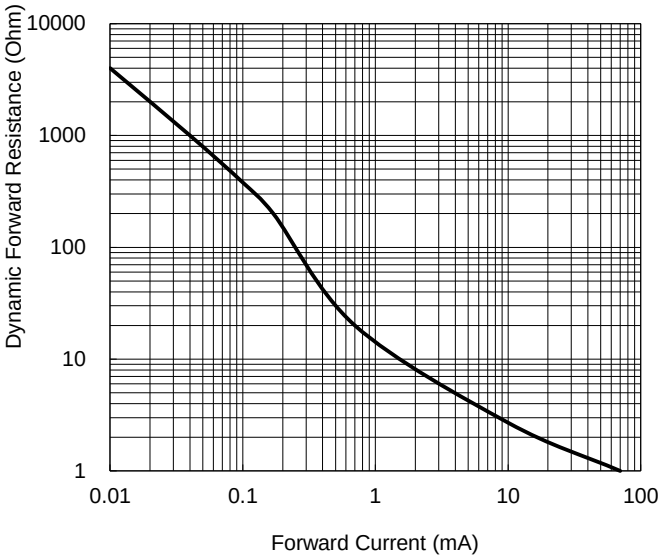
Fig.4 Typical Junction Capacitance



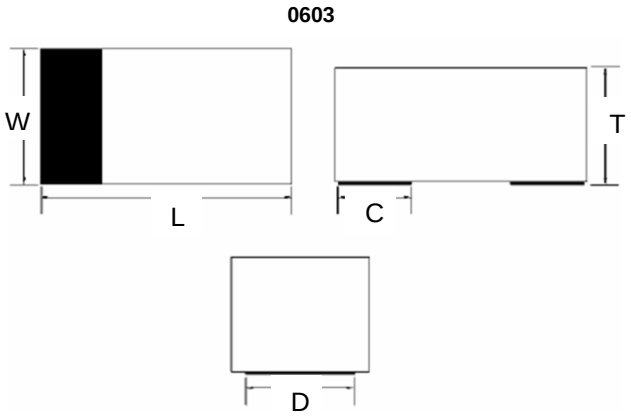
CHARACTERISTICS CURVES

(T_A = 25°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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