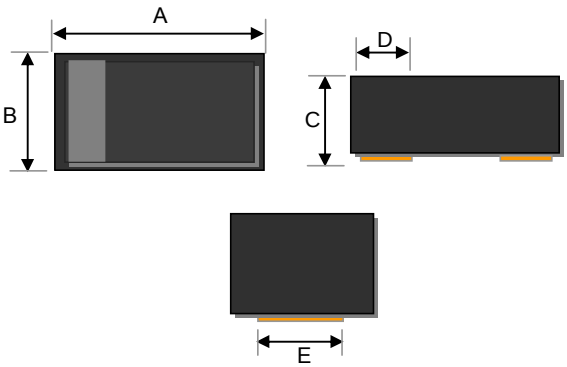
TAIWAN SEMICONDUCTOR

TS4448 RZ
150mW High Speed SMD Switching Diode

Small Signal Diode

0603



Dimensions	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.60	1.80	0.063	0.071
B	0.80	1.00	0.031	0.039
C	0.70	0.85	0.027	0.033
D	Typ.	0.45	Typ.	0.018
E	Typ.	0.70	Typ.	0.028

FeaturesBV

✧Designed for mounting on small surface.
✧Extremely thin/leadless package
✧High mounting capability,strong surage with stand, high reliability.
✧Pb free version and RoHS compliant
✧Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code

Mechanical Data

✧Case :0603 standard package, molded plastic
✧Terminal: Gold plated, solderable per MIL-STD-750, method 2026 guaranteed
✧High temperature soldering guaranteed: 260°C/10s
✧Polarity : Indicated by cathode band
✧Weight : 0.003 gram (approximately)

Ordering Information

Part No.	Package	Packing
TS4448 RZ	0603	4Kpcs / 7" Reel

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Maximum Ratings

Type Number	Symbol	Value	Units
Power Dissipation	P_D	150	mW
Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Repetitive Peak Forward Current	I_{FRM}	300	mA
Mean Forward Current	I_O	125	mA
Non-Repetitive Peak Forward Surge Current Pulse Width= 1 μsec Pulse Width= 8.3 msec	I_{FSM}	 2.0 1.0	A
Thermal Resistance (Junction to Ambient) (Note 1)	RθJA	666	°C/W
Junction and Storage Temperature Range	T_J, T_{STG}	-40 to + 125	°C

Electrical Characteristics

Type Number			Symbol	Min	Max	Units
Reverse Breakdown Voltage		(Note 2)	$V_{(BR)}$	-	80	V
Forward Voltage	I_F=	5mA	V_F	0.62	0.72	V
	I_F=	100mA			1.00	
Reverse Leakage Current	V_R=	20V	I_R	-	25	nA
	V_R=	80V		-	100	
Junction Capacitance	V_R=0.5, f=1.0MHz		C_J	-	9.0	pF
Reverse Recovery Time	(Note3)		Trr	-	9	ns

Notes:1. Valid provided that electrodes are kept at ambient temperature
Notes:2. Test Condition : I_R=100μA
Notes:3. Test Condition : I_F=I_R=10mA, R_L=100Ω, I_{RR}=1mA

Small Signal Diode

Rating and Sharacteristic Curves

FIG 1 Typical Forward Characteristics

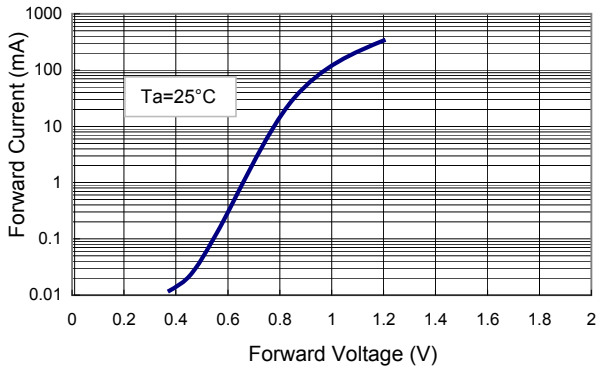


FIG 2 Reverse Current vs Reverse

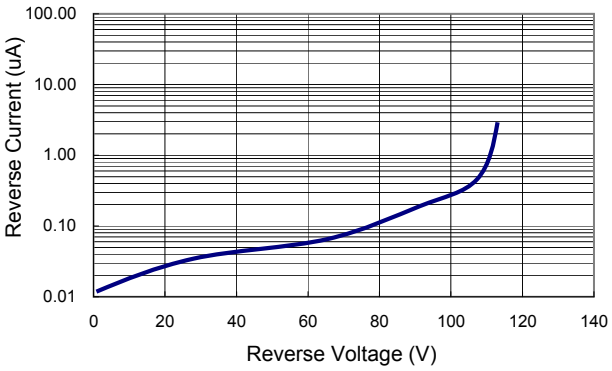


FIG 3 Admissible Power Disspation Curve

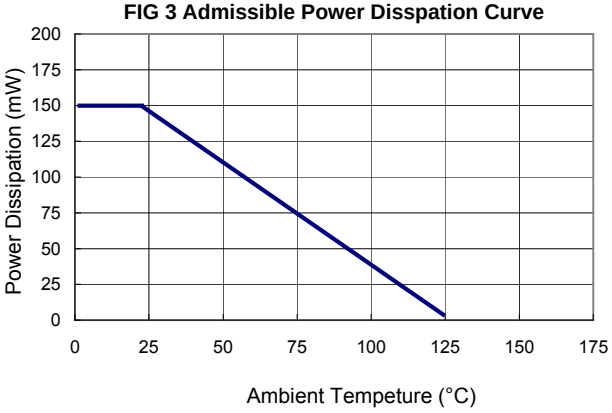


FIG 4 Typical Junction Capacitance

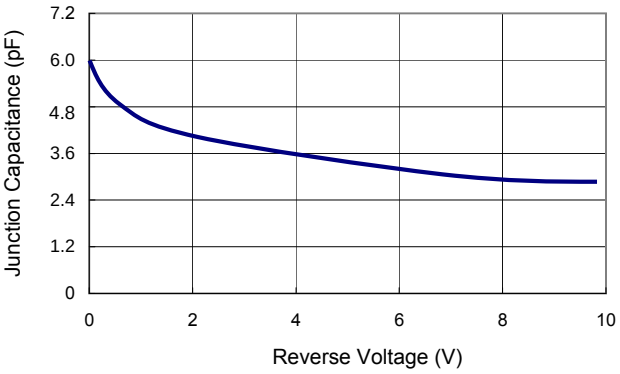


FIG 5 Forward Resistance vs. Forward Current