



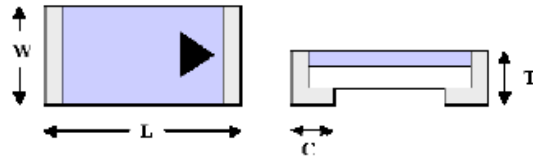
# TS4148

## 0.35 / 0.5AMPS High Speed Switching Diode

Voltage Range  
100 Volts  
Current  
0.35 / 0.5 Ampere

### Features

- ✧ For surface mounted application
- ✧ Low forward voltage drop
- ✧ High Current capability
- ✧ Fast switching for high efficiency
- ✧ High surge current capability
- ✧ Chip version in 1206 and 0805, 0603
- ✧ High temperature soldering:  
260°C / 10 seconds at terminals



### Mechanical Data

- ✧ Cases: 1206, 0805 or 0603
- ✧ Terminals: Tin plated
- ✧ Polarity: indicated by cathode arrow
- ✧ Packaging: 8 mm tape per EIA STD RS-481

Item	1206	0805	0603
L	0.135(3.40) 0.119(3.0)	0.088(2.20) 0.072(1.8)	0.071(1.65) 0.59(1.45)
W	0.07(1.70) 0.054(1.30)	0.058(1.45) 0.042(1.05)	0.039(0.9) 0.027(0.7)
T	0.038(0.95) 0.03(0.75)	0.038(0.95) 0.03(0.75)	0.034(0.75) 0.026(0.55)
C	0.03(0.75) 0.014(0.35)	0.026(0.65) 0.01(0.25)	0.018(0.45) 0.010(0.25)

Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	Symbol	0603	1206	0805	Units
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	100			V
Reverse Voltage	$V_R$	75			V
Maximum Average Forward Rectified Current Resistive Load $f > 50\text{Hz}$	$I_{F(AV)}$	150			mA
Peak Forward Surge Current 8.3 ms Half Sine-wave 1 $\mu\text{s}$	$I_{FSM}$	350	500		mA
		2.0			A
Maximum Instantaneous Forward Voltage @100mA	$V_F$	1.0			V
Maximum D.C. Reverse Current @ $T_c=25^\circ\text{C}$ $V_R=20\text{V}$ at Rated DC Blocking Voltage @ $T_c=125^\circ\text{C}$ $V_R=20\text{V}$	$I_R$	25			nA
		50			$\mu\text{A}$
Typical Reverse Recovery Time(Note 2) $T_J=25^\circ\text{C}$	$T_{rr}$	5.0			nS
Typical Junction Capacitance (Note 1)	$C_j$	1.55	1.65	1.60	pF
Typical Thermal Resistance	$R_{\theta JA}$	200	190	150	$^\circ\text{C}/\text{W}$
	$R_{\theta JC}$	105	80	60	
Power Dissipation	$P_D$	350	500		mW
Operating Junction Temperature Range	$T_J$	-65 to + 200			$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to + 200			$^\circ\text{C}$

Notes: 1. Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

2. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ , Recover to 0.25A.



## RATINGS AND CHARACTERISTIC CURVES (TS4148)

FIG.1- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

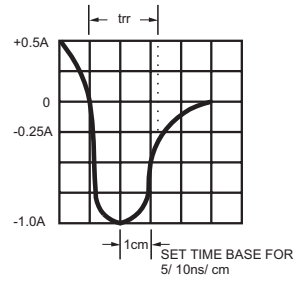
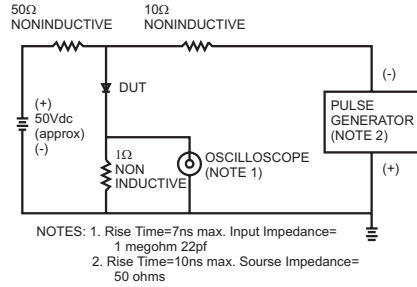


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

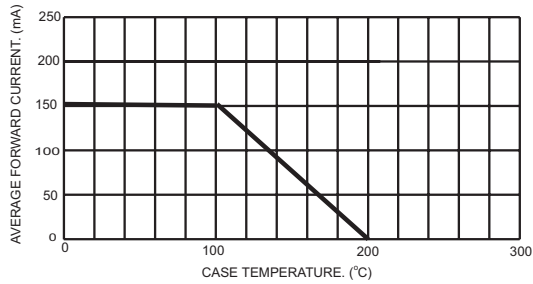


FIG.3- TYPICAL REVERSE CHARACTERISTICS

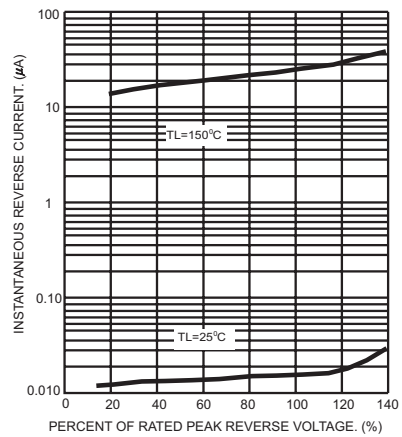


FIG.4- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

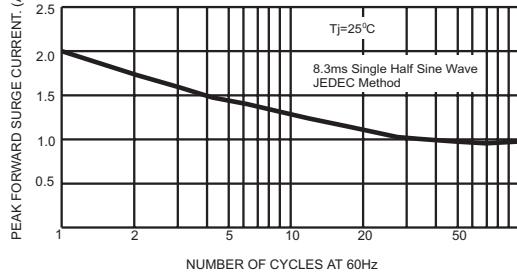


FIG.6- TYPICAL FORWARD CHARACTERISTICS

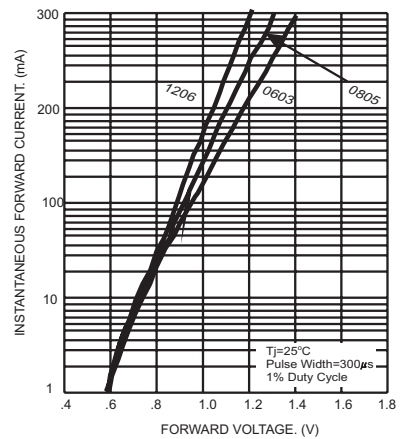


FIG.5- TYPICAL JUNCTION CAPACITANCE

