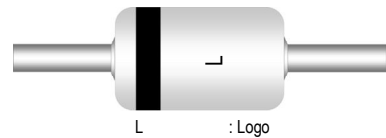


300 mW DO-34 Hermetically Sealed Glass Fast Switching Diodes



DEVICE MARKING DIAGRAM (TC1N4148M)



DEVICE MARKING DIAGRAM (TC1N4448M / TC1N914BM)



Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
P_D	Power Dissipation	300	mW
T_{STG}	Storage Temperature Range	-65 to +150	$^\circ\text{C}$
T_J	Operating Junction Temperature	+150	$^\circ\text{C}$
W_{IV}	Working Inverse Voltage	75	V
I_O	Average Rectified Current	150	mA
I_{FM}	Non-repetitive Peak Forward Current	450	mA
I_{FSURGE}	Peak Forward Surge Current (Pulse Width = 1.0 μsecond)	2	A

These ratings are limiting values above which the serviceability of the diode may be impaired.

Specification Features:

- Fast Switching Device ($T_{RR} < 4.0 \text{ nS}$)
- DO-34 Package (JEDEC DO-204)
- Through-Hole Device Type Mounting
- Hermetically Sealed Glass
- Compression Bonded Construction
- All External Surfaces Are Corrosion Resistant And Lads Are Readily Solderable
- RoHS Compliant
- Solder Hot Dip Tin (Sn) Terminal Finish
- Cathode Indicated By Polarity Band



ELECTRICAL SYMBOL

Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Limits		Unit
			Min	Max	
B_V	Breakdown Voltage	$I_R = 100 \mu\text{A}$ $I_R = 5 \mu\text{A}$	100		Volts
			75		
I_R	Reverse Leakage Current	$V_R = 20\text{V}$ $V_R = 75\text{V}$		25	nA
				5	μA
V_F	Forward Voltage	TC1N4448M, TC1N914BM $I_F = 5\text{mA}$	0.62	0.72	Volts
		TC1N4148M $I_F = 10\text{mA}$		1.0	
		TC1N4448M, TC1N914BM $I_F = 100\text{mA}$		1.0	
T_{RR}	Reverse Recovery Time	$I_F = 10\text{mA}, V_R = 6\text{V}$ $R_L = 100\Omega$ $I_{RR} = 1\text{mA}$		4	nS
C	Capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$		4	pF

Typical Characteristics

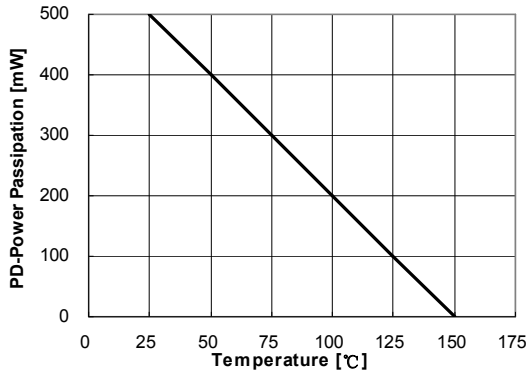


Figure 1. Power Dissipation vs Ambient Temperature
Valid provided leads at a distance of 0.8mm from case are kept at ambient temperature

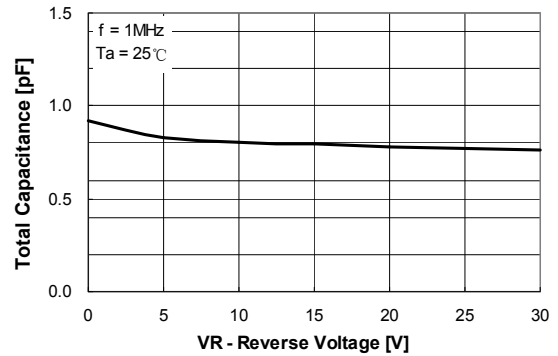


Figure 2. Total Capacitance

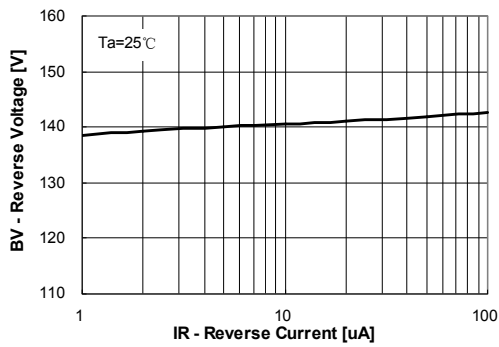


Figure 3. Reverse Voltage vs Reverse Current
BV – 1.0uA to 100uA

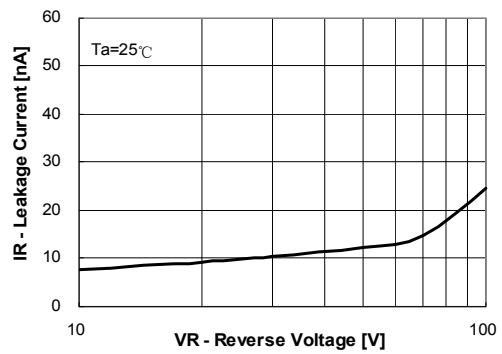


Figure 4. Reverse Current vs Reverse Voltage
IR – 10V to 100V

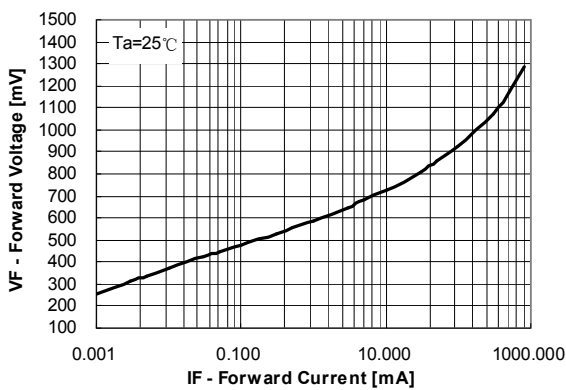


Figure 5. Forward Voltage vs Forward Current
VF – 0.001mA to 800mA

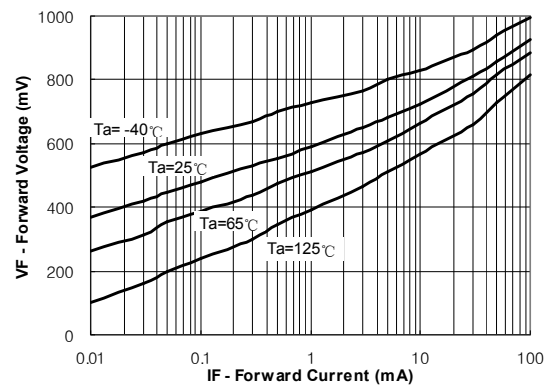
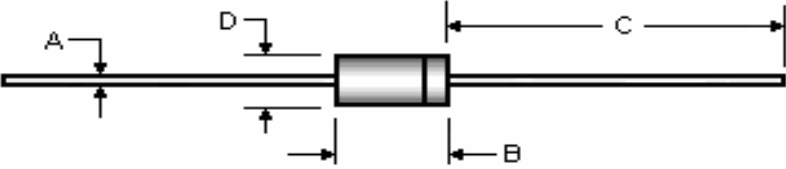


Figure 6. Forward Voltage vs Ambient Temperature
VF – 0.01mA to 100mA (-40 to +125 Deg C)

Package Outline

Package	Case Outline				
DO-34					
	DIM	DO-34			
		Millimeters		Inches	
		Min	Max	Min	Max
	A	0.46	0.55	0.018	0.022
	B	2.16	3.04	0.085	0.120
C	25.40	38.10	1.000	1.500	
D	1.27	1.90	0.050	0.075	

Notes:

1. All dimensions are within JEDEC standard.
2. DO34 polarity denoted by cathode band.

NOTICE

The information presented in this document is for reference only. Tak Cheong reserves the right to make changes without notice for the specification of the products displayed herein.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Tak Cheong Semiconductor Co., Ltd., or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

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