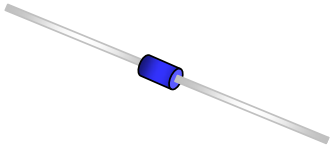
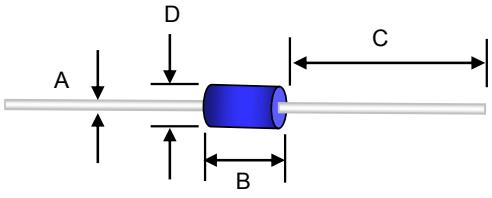
TAIWAN SEMICONDUCTOR

DB3-DB3TG
150mW Bi-directional Trigger Diode

Small Signal Diode

DO-35 Axial Lead
HERMETICALLY SEALED GLASS





Features

- ✧Designed for through-Hole Device Type Mounting.
- ✧Hermetically Sealed Glass.
- ✧All external surface are corrosion resistant and terminals are readily solderable.
- ✧High reliability glass passivation insuring parameter stability and protection against junction contamination.
- ✧Pb free version and RoHS compliant

Dimensions	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	0.45	0.55	0.018	0.022
B	3.05	4.00	0.120	0.157
C	25.4	38.1	1.000	1.500
D	1.53	2.28	0.060	0.090

Mechanical Data

- ✧Case :DO-35 Solder Hot Dip Tin (Sn) lead finish
- ✧Terminal: Pure tin plated, lead free., solderable per MIL-STD-202, Method 208 guaranteed
- ✧High temperature soldering guaranteed: 260°C/10s
- ✧Marking : DB3/DB3TG
- ✧Weight : 0.1255 gram (approximately)

Ordering Information

Package	Part No.	Packing	Marking
DO-35	DB3 RI	5K / 10" Reel	DB3
DO-35	DB3TG RI	5K / 10" Reel	DB3TG

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 Forward Current Pulse Width= 20μsec	I_{FRM}	2	A
Thermal Resistance (Junction to Ambient) (Note 1)	RθJA	400	°C/W
Junction and Storage Temperature Range	T_J, T_{STG}	-40 to + 125	°C

Notes:1. Valid provided that electrodes are kept at ambient temperature

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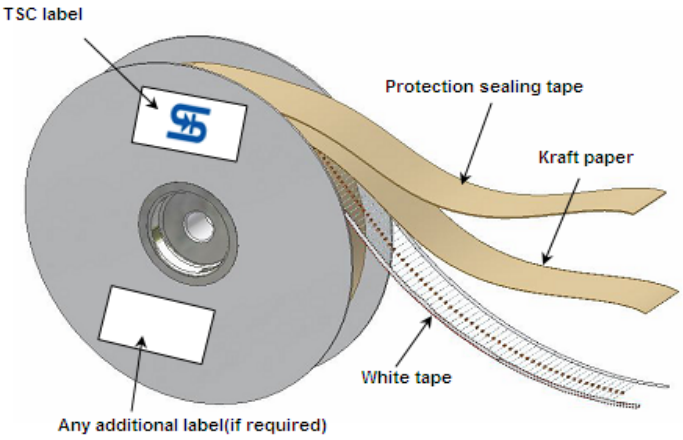
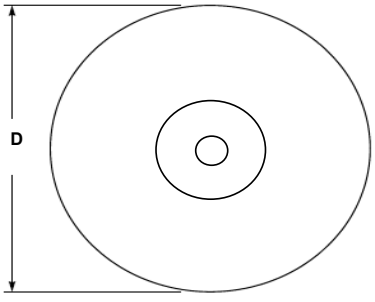
Electrical Characteristics

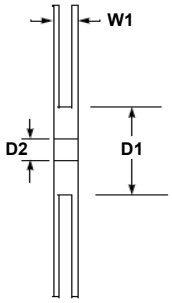
Type Number		Symbol		DB3	DB3TG	Units
Break-over Voltage	C= 22nF	V_{BO}	Min.	28	30	V
			Typ.	32	32	
			Max.	36	34	
Break-over Voltage Symmetry	C= 22nF	+ / -V_{BO}	Max.	+ / - 3	+ / - 2	V
Break-over Current	C= 22nF	I_{BO}	Max.	100	15	μA
Dynamic Breakover Voltage	I_{BO} to I_F=10mA	ΔV	Min.	5	9	V
Leakage Current	V_B= 0.5V_{BO} (MAX)	I_B	Max.	10		μA
Output Voltage	*see diagram 1	V_O	Min.	5		V

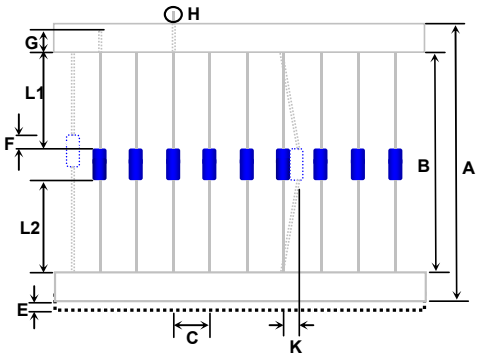
Tape & Reel specification



Item	Symbol	Dimension(mm)
Overall width	A	64+1.69/-0.69
Tape spacing	B	52.0+/-0.69
Component Pitch	C	5.08+/-0.40
Untaped lead	L1-L2	+/-0.69
Bent	K	1.2 Max
Tape Mismatch	E	0.55(MAX)
Glass offset	F	0.69(MAX)
Taped lead	G	3.2Min
lead beyond tape	H	0
Reel outside diameter	D	260+/-3
Reel inner diameter	D1	48+/-1
Feed hole width	D2	20+/-0.5
Reel width	W1	72+3/-1

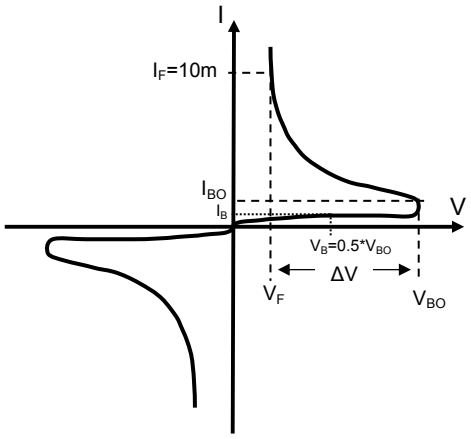






Small Signal Diode

Rating and Characteristic Curves



V_{BO} :Break-Over Voltage
I_{BO} : Break-Over Current
ΔV : Dynamic Breakover Voltage
I_B : Leakage Current at V_B=0.5*V_{BO}
V_F : Voltage at Current I_F=10mA

Diagram 1: Test Circuit

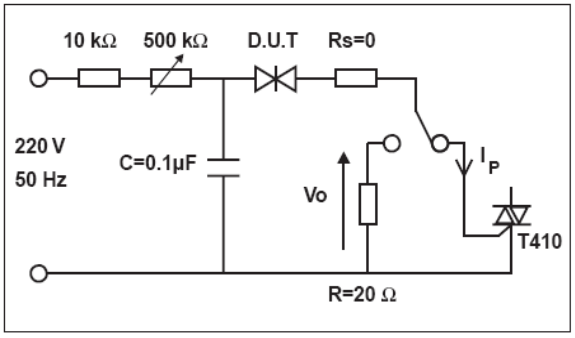


FIG 1 Admissible Power Dissipation Curve

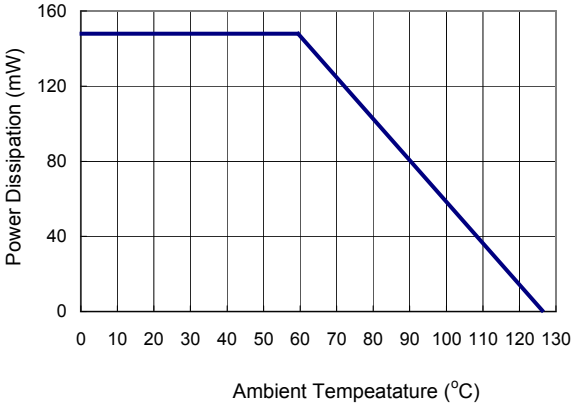


FIG 2 Relative variation of VBO versus junction temperature (typical values)

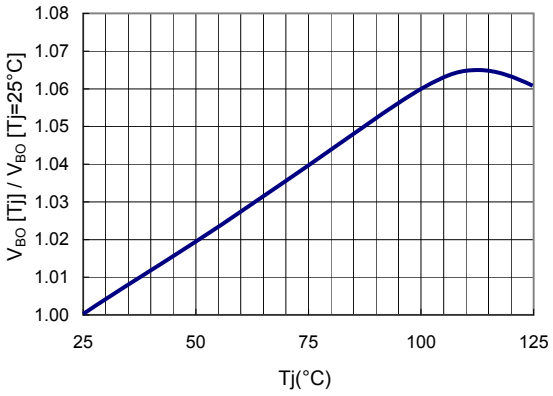


FIG 3 Repetitive peak pulse current versus pulse duration (maximum values)