



*DC COMPONENTS CO., LTD.*

RECTIFIER SPECIALISTS

DB3  
THRU  
DB6

## TECHNICAL SPECIFICATIONS OF BIDIRECTIONAL DIODE THYRISTORS (DIACS)

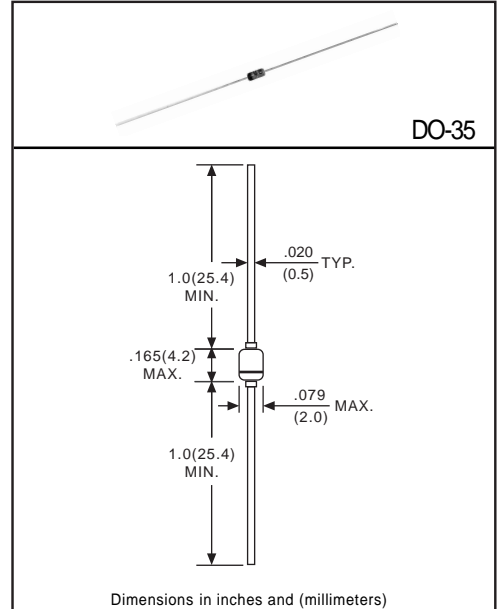
### FEATURES

- \* Glass passivated three-layer for triggering thyristors.
- \* Low breakover current at breakover voltage.
- \* For use in thyristor phase-control circuit for lampdimming, universal-motor speed control and heat controls.

### MECHANICAL DATA

- \* Case: Glass sealed case
- \* Terminals: MIL-STD-202E, Method 208 guaranteed
- \* Mounting position: Any
- \* Weight: 0.15 gram Approx.

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%.



## ABSOLUTE RATINGS(LIMITING VALUES)

PARAMETERS	SYMBOL	VALUE				UNITS
		DB3	DC34	DB4	DB6	
Power Dissipation on Printed Circuit (L=10mm) T <sub>A</sub> =25°C	P <sub>C</sub>	150				mW
Repetitive Peak on-state Current t <sub>p</sub> =10μs f=100Hz	I <sub>TRM</sub>	2.0			1.6	A
Maximum Lead Temperature for Soldering	T <sub>STG</sub> /T <sub>J</sub>	-40 to +125				°C

## ELECTRICAL CHARACTERISTICS

PARAMETERS	TEST CONDITIONS		SYMBOL	VALUE				UNITS
				DB3	DC34	DB4	DB6	
Breakover Voltage (Note 2)	C=22nF (Note 2) See FIG.1	Min	V <sub>Bo</sub>	28	30	35	56	Volts
		Typ		32	34	40	60	
		Max		36	38	45	70	
Breakover Voltage Symmetry	C=22nF (Note 2) See FIG. 1	Max	I+VBOI-I-VBOI	A 3			A 4	Volts
Dynamic Breakback Voltage (Note 1)	ΔI=(I <sub>Bo</sub> to I <sub>F</sub> =10mA ) See FIG. 1	Min	IΔVI	5			10	Volts
Output Voltage (Note 1)	See FIG. 2	Min	V <sub>O</sub>	5				Volts
Breakover Current (Note 1)	C=22nF (Note 2)	Max	I <sub>Bo</sub>	100				μA
Rise time (Note 1)	See FIG. 3	Typ	t <sub>r</sub>	1.5				μs
Leakage Current (Note 1)	V <sub>B</sub> =0.5 V <sub>Bo</sub> max See FIG. 1	Max	I <sub>B</sub>	10				μA

NOTE: 1. Electrical characteristics applicable in both forward and reverse directions.

2. Connected in parallel with the devices.

# RATING AND CHARACTERISTIC CURVES (DB3 THRU DB6)

FIG.1 - VOLTAGE-CURRENT CHARACTERISTICS

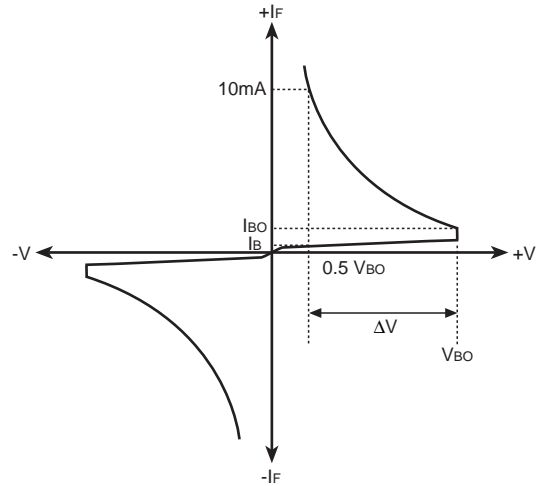


FIG.2 - TEST CIRCUIT FOR OUTPUT VOLTAGE

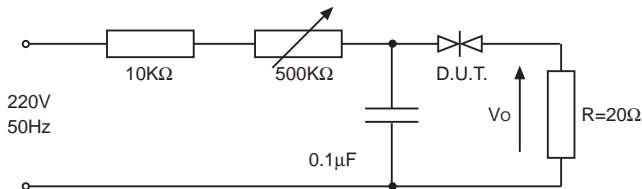


FIG.3 - TEST CIRCUIT SEE FIG.2 ADJUST R FOR  $I_P=0.5\text{A}$

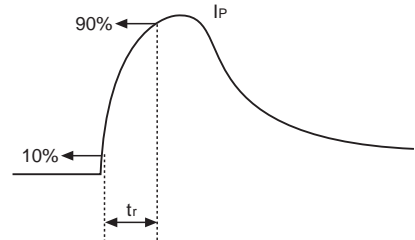


FIG.4 - REPETITIVE PEAK ON-STATE CURRENT VS PULSE DURATION

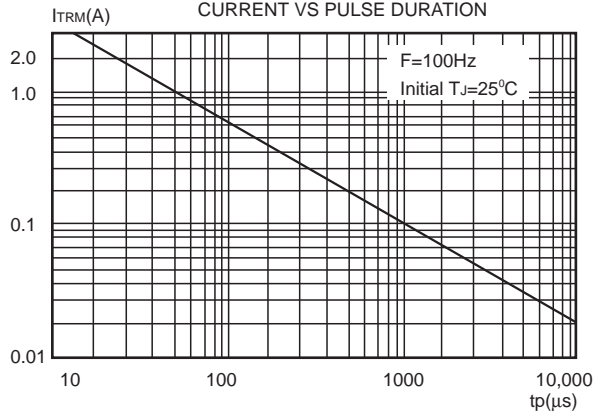


FIG.5 - REPETITIVE PEAK ON-STATE CURRENT VS PULSE DURATION

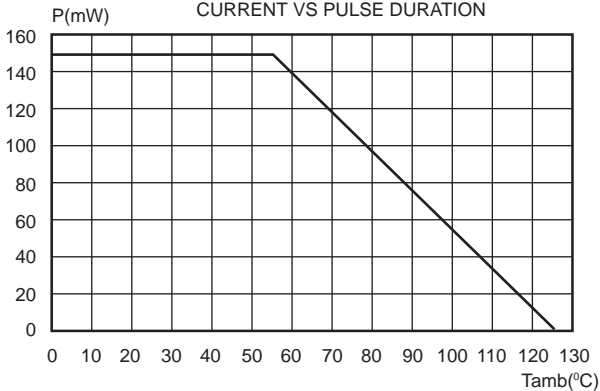
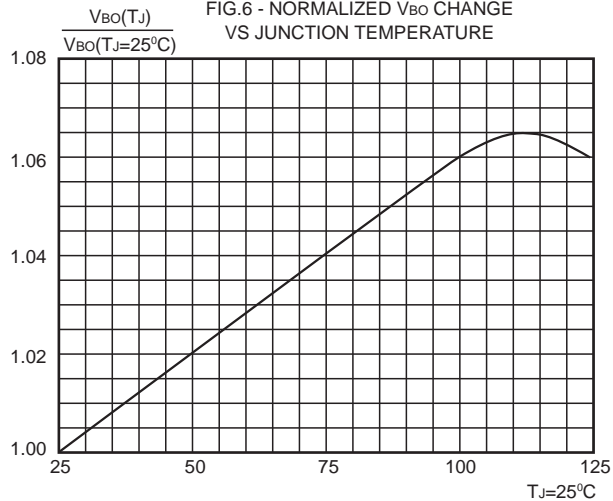


FIG.6 - NORMALIZED  $V_{BO}$  CHANGE VS JUNCTION TEMPERATURE



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