



DB3 THRU DB6

VOLTAGE RANGE

32 to 60 Volts

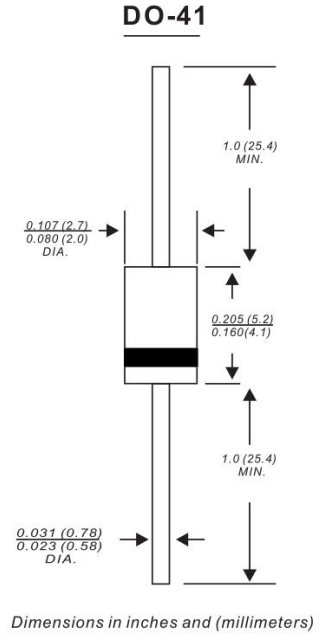


Features

- B<sub>VO</sub> 32V/34V/40V/60V Versions
- Low Breakover Current
- High reliability glass passivation insuring parameter stability and protection against junction contamination
- High temperature soldering guaranteed  
260°C/10 seconds,0.375"(9.5mm)lead length at 5 lbs(2.3kg) tension

Mechanical Data

- Case: Transfer molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.012ounce, 0.33 grams



Absolute Ratings (limiting values)

- Ratings at 25°C ambient temperature unless otherwise specified

Symbol	Parameter		Value	Units
P	Power dissipation on printed circuit(L=10mm)	T <sub>A</sub> =65°C	150	mW
I <sub>TRM</sub>	Repetitive peak on-state current	T <sub>p</sub> =20μs F=100Hz	2.0(DB3-DB4) 1.6(DB6)	Amps
T <sub>J</sub> ,T <sub>STG</sub>	Storage and operating junction temperature range		-40 to +125 -40 to +125	°C

Thermal Resistances

Symbol	Parameter	Value	Units
P <sub>TH(J-A)</sub>	Junction to ambient	400	°C/W
P <sub>TH(J-L)</sub>	Junction-leads	150	°C/W



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Electrical Characteristics ( $T_J=25^\circ\text{C}$ )

Symbol	Parameter	Test Conditions	Limit	Value				Units
				DB3	DC34	DB4	DB6	
$V_{BO}$	Breakover voltage*	C=22nF** see diagram 1	Min	28	30	35	56	Volts
			Typ	32	34	40	60	
			Max	36	38	45	70	
$[+V_{BO} I-I-V_{BO} ]$	Breakover voltage voltage*	C=22nF** see diagram 1	Max	$\pm 3$			$\pm 4$	Volts
$I\Delta V\pm I$	Dynamic breakover voltage*	$\Delta I=[I_{BO} \text{ to } I_F=10\text{mA}]$ see diagram 1	Min	5			10	Volts
$V_O$	Output voltage*	see diagram 2	Min	5				Volts
$I_{BO}$	Breakover current*	C=22nF**	Max	100	50	100		$\mu\text{A}$
$t_r$	Rise time*	see diagram 3	Typ	1.5				$\mu\text{S}$
$I_b$	Leakage current*	$V_b=0.5V_{BO}$ max see diagram 1	Max	10				$\mu\text{A}$

\*Electrical characteristic applicable in both forward and reverse directions.

\*\*Connected in parallel with the devices.

DIAGRAM 1 : Current-voltage characteristics

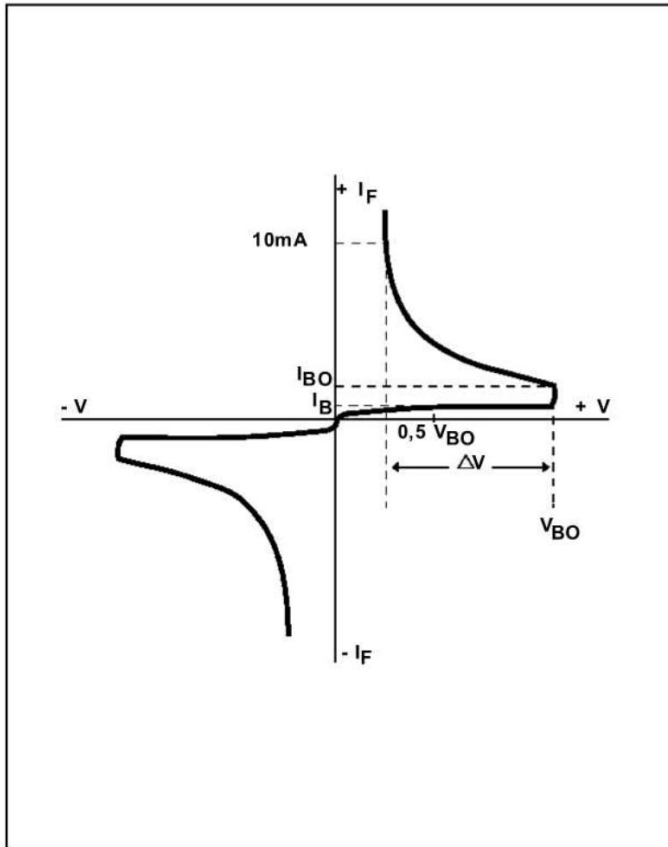


DIAGRAM 2 : Test circuit for output voltage

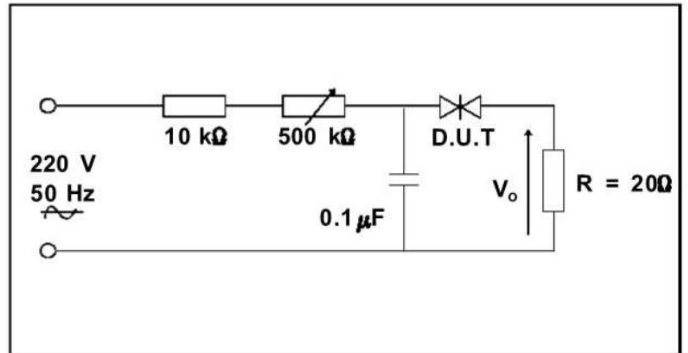
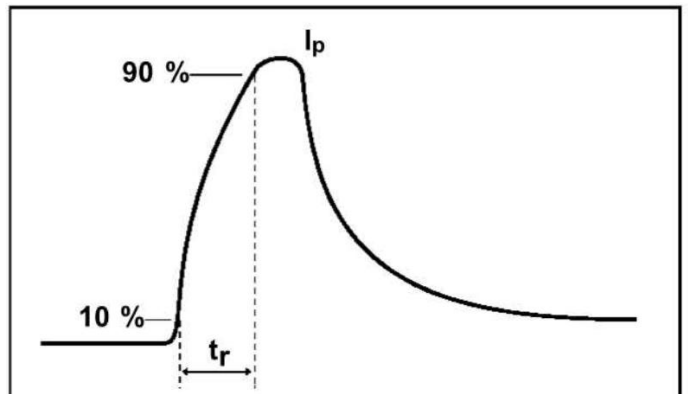
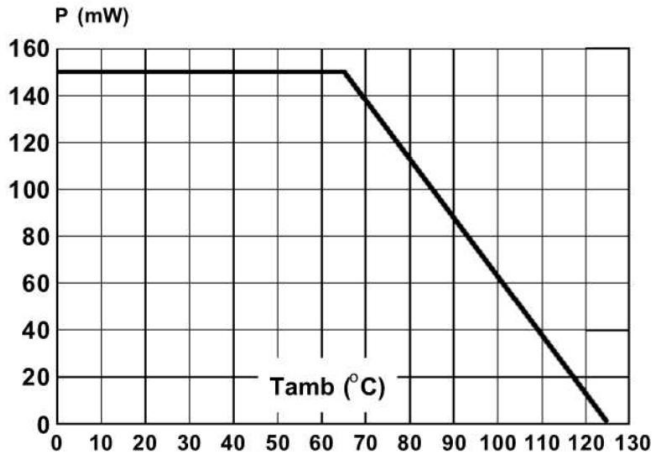
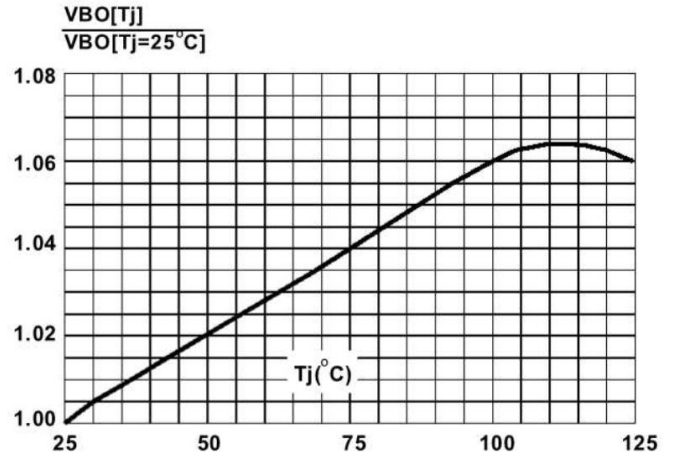
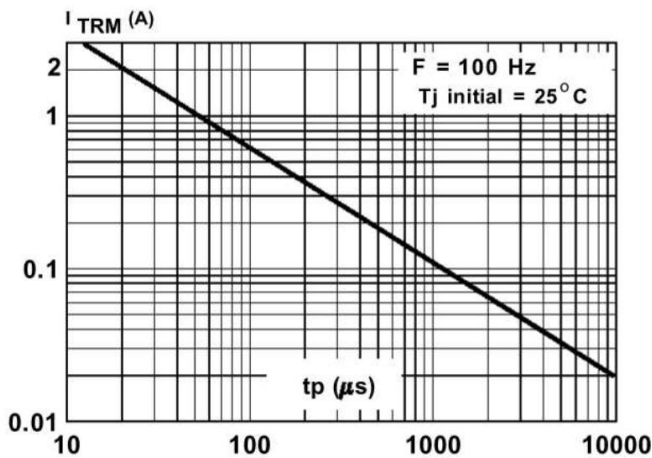


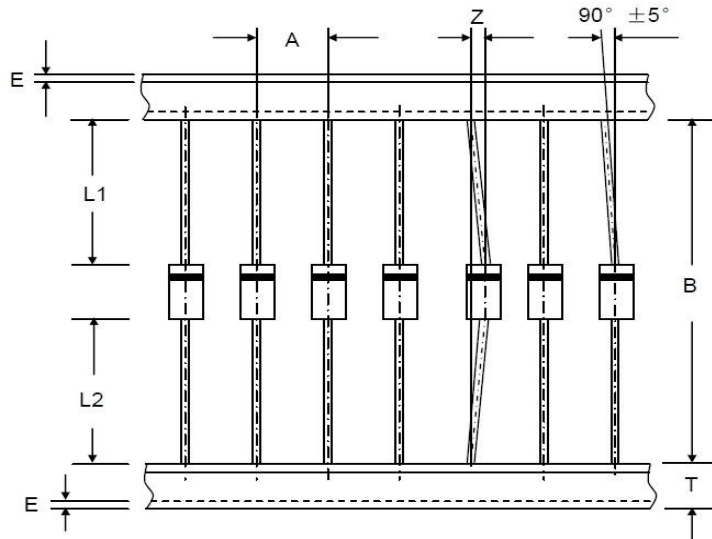
DIAGRAM 3 : Test circuit see diagram 2.  
Adjust R for  $I_p=0.5A$



Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$  unless otherwise noted)**Fig.1** : Power dissipation versus ambient temperature (maximum values)**Fig.2** : Relative variation of  $V_{BO}$  versus junction temperature (typical values)**Fig.3** : Peak pulse current versus pulse duration (maximum values)



Axial Lead Taping Specifications for Rectifiers

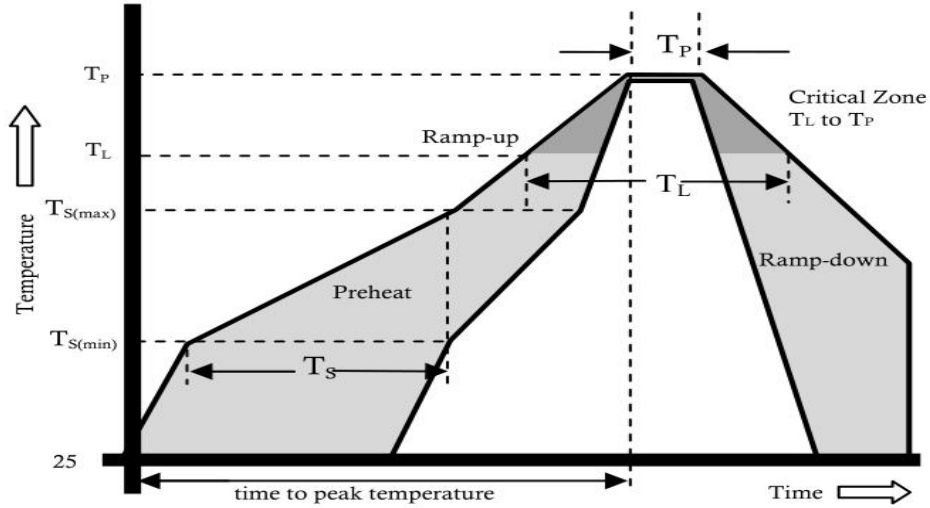


Component Outline	Component Pitch A	Inner Tape Pitch B		Cumulative Tolerance
	±0.5mm	+0.5mm	-0.4mm	
DO-204AL(DO-41)	5.0mm	52.4mm	26.0mm	2.0mm/20pitch

Item	Symbol	Specifications(mm)	Specifications(inch)
Component alignment	Z	1.2 max	0.048 max
Tape width	T	6.0±0.4	0.236±0.016
Exposed adhesive	E	0.8 max	0.032 max
Body eccentricity	IL1-L2I	1.0 max	0.040 max



Reflow Profile



Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60-180 secs.
Average ramp up rate(Liquidus Temp( $T_L$ ) to peak)		3°C/sec. Max.
$T_S(max)$ to $T_L$ - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature ( $T_L$ )(Liquidus)	+217°C
	Temperature ( $T_P$ )	60-150 secs.
Peak Temp ( $T_P$ )		+(260+0/-5)°C
Time within 5°C of actual Peak Temp ( $T_P$ )		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp ( $T_P$ )		8 min. Max.
Do not exceed		+260°C



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