



DB3 THRU DB6

VOLTAGE RANGE

32 to 60 Volts

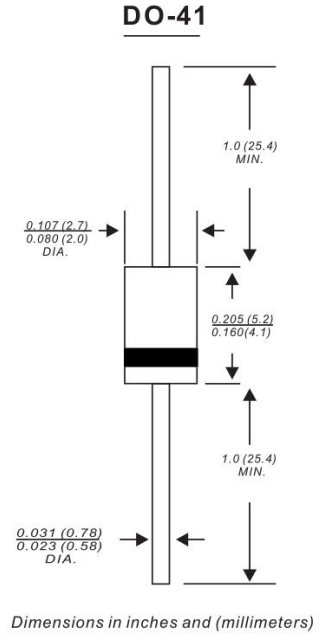


Features

- B_{VO} 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)	$T_A=65^{\circ}\text{C}$	150	mW
I_{TRM}	Repetitive peak on-state current	$T_p=20\mu\text{s}$ $F=100\text{Hz}$	2.0(DB3-DB4) 1.6(DB6)	Amps
T_J, T_{STG}	Storage and operating junction temperature range		-40 to +125 -40 to +125	$^{\circ}\text{C}$

Thermal Resistances

Symbol	Parameter	Value	Units
$P_{TH(J-A)}$	Junction to ambient	400	$^{\circ}\text{C/W}$
$P_{TH(J-L)}$	Junction-leads	150	$^{\circ}\text{C/W}$



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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	± 3			± 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		μA
t_r	Rise time*	see diagram 3	Typ	1.5				μS
I_b	Leakage current*	$V_b=0.5V_{BO}$ max see diagram 1	Max	10				μA

*Electrical characteristic applicable in both forward and reverse directions.

**Connected in parallel with the devices.

DIAGRAM 1 : Current-voltage characteristics

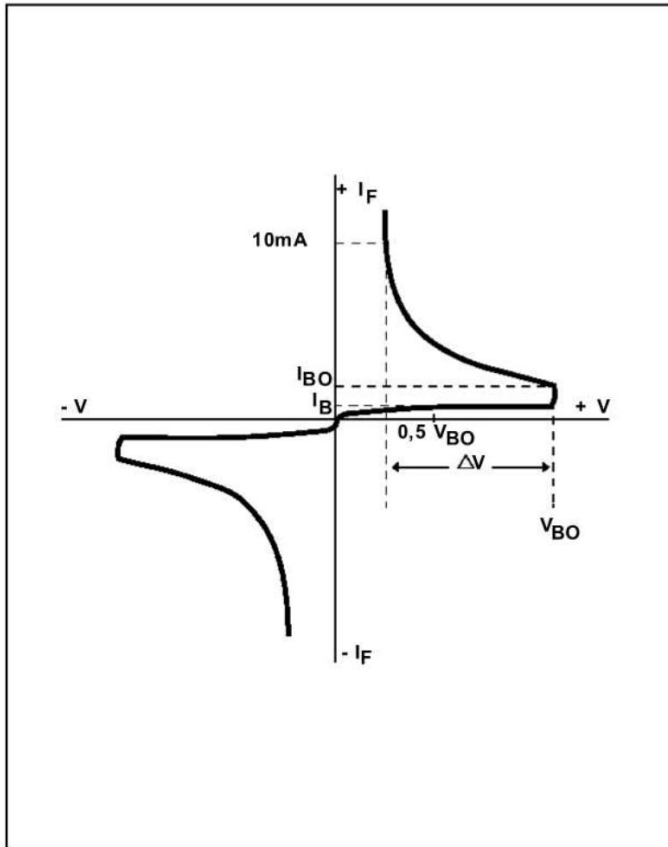


DIAGRAM 2 : Test circuit for output voltage

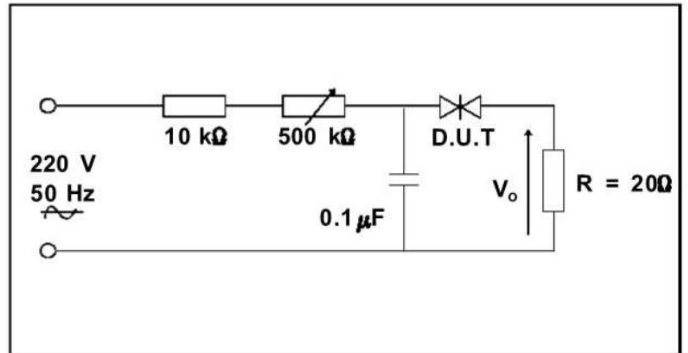
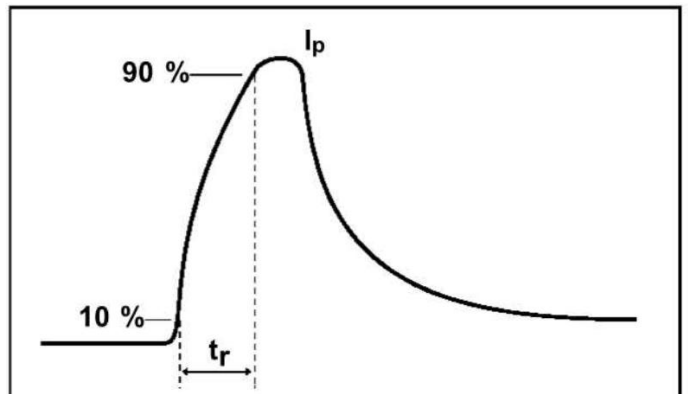


DIAGRAM 3 : Test circuit see diagram 2.
Adjust R for $I_p=0.5\text{A}$





Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

Fig.1 : Power dissipation versus ambient temperature (maximum values)

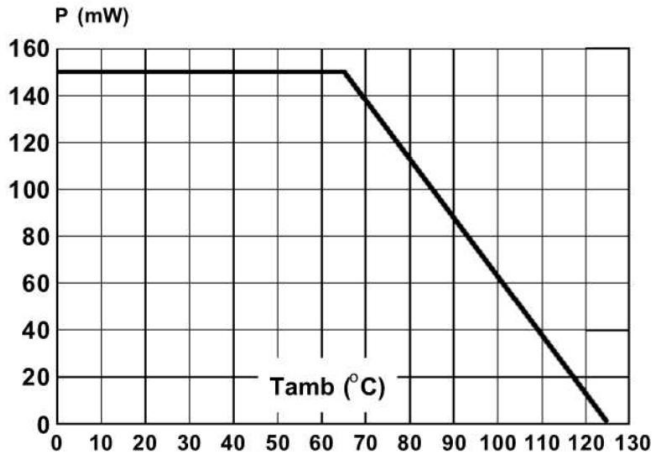


Fig.2 : Relative variation of V_{BO} versus junction temperature (typical values)

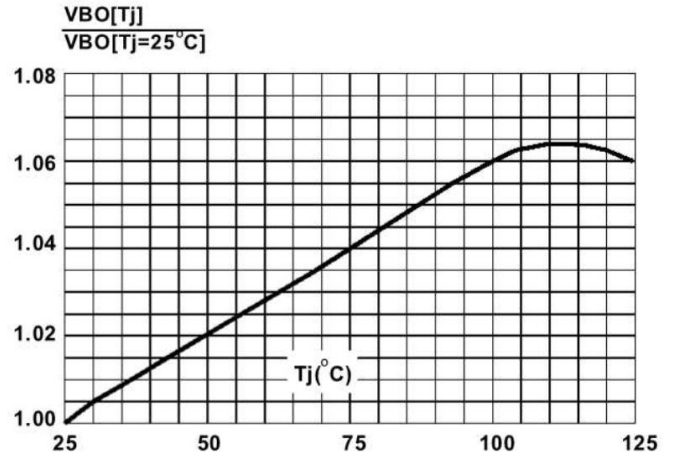
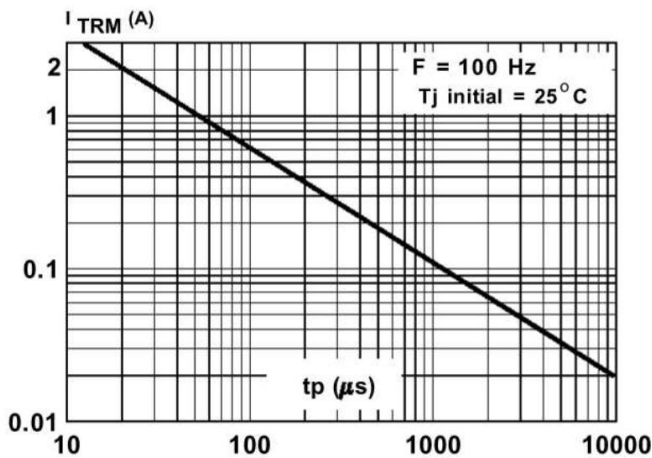
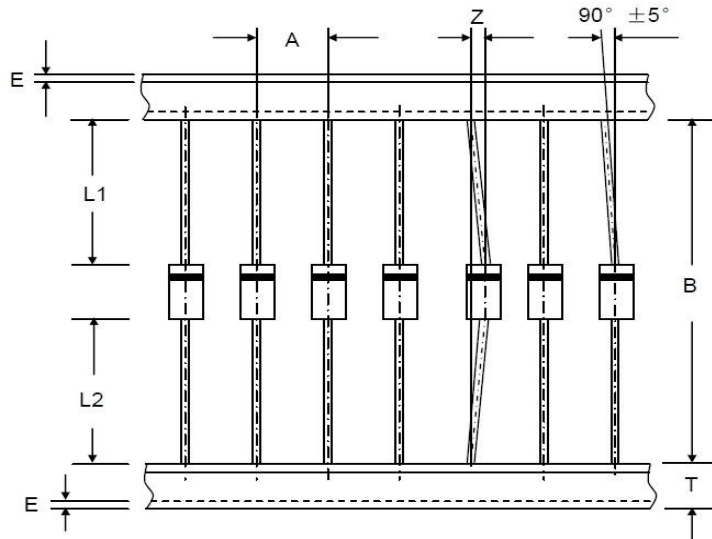


Fig.3 : Peak pulse current versus pulse duration (maximum values)





Axial Lead Taping Specifications for Rectifiers

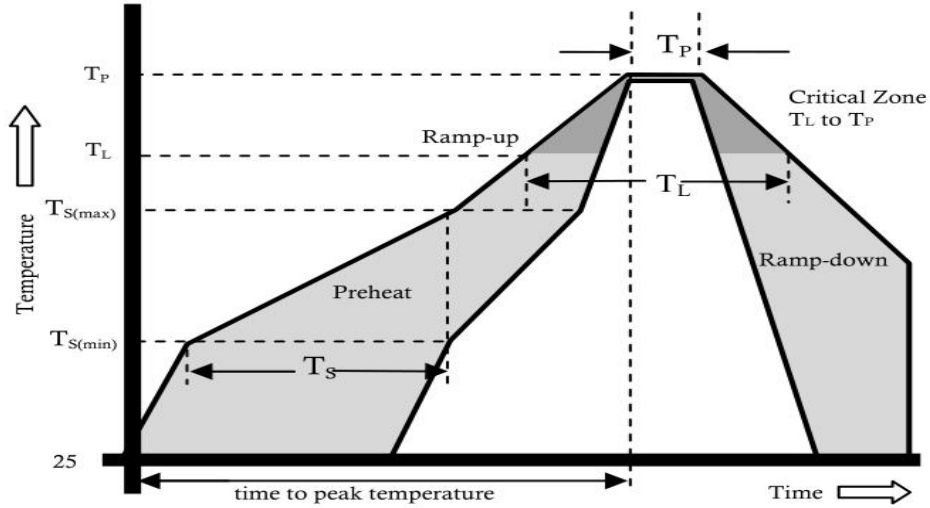


Component Outline	Component Pitch A	Inner Tape Pitch B		Cumulative Tolerance
	±0.5mm	+0.5mm	-0.4mm	
DO-204AL(DO-41)	5.0mm	52.4mm	26.0mm	2.0mm/20pitch

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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Disclaimer

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