Surface Mount DIAC

SOD80C (MINIMELF)

BREAKOVER VOLTAGE	ON-STATE CURRENT
32 V	2.0 Amps

FEATURES

- Glass hermetically sealed
- Ideal for automated placement
- Low breakover current
- Silicon Bidirectional with excellent symmetry
- Very low leakage current
- Solder dip 260°C, 3.5s
- Component in accordance to RoHS 2011/65/EU and WEEE 2002/96/EC
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260° C

Pb

e3

RoHS COMPLIANT

MECHANICAL DATA

- **Case:** SOD80C (MINIMELF) (Glass).
- **Polarity:** As marked on the body.
- **Terminals:** Matte tin plated leads, solderable per MIL-STD-750 Method 2026, J-STD-002 and JESD22-B102. Consumer grade, meets JESD 201 class 1A whisker test.

TYPICAL APPLICATIONS

Functioning as a triggeer diode with a fixed voltage reference, the FD02 series can be used in conjunction with triacs for simplified gate control circuits or as a starting element in fluorescent lamp ballasts and other switching functions like universal-motor speed control, and heat control..

Maximun Ratings and Electrical Characteristics at 25°C

SYMBOL	PARAMETER	CONDITIONS	Min.	Typ.	Max.	Unit
P_{tot}	Total Power Dissipation on printed circuit (L = 10mm)	Ta = 50°C			150	mW
I_{TRM}	Repetitive peak on-state current	tp = 20 µs, f = 120 Hz			2	A
T_{stg}	Storage Temperature Range		-40		+125	°C
T_j	Operating Junction Temperature		-40		+125	°C
T_{sld}	Soldering Temperature	5 ≤ max.			260	°C
$R_{th\ (j-a)}$	Junction to Ambient				400	°C/W
$R_{th\ (j-l)}$	Junction to leads				150	°C/W

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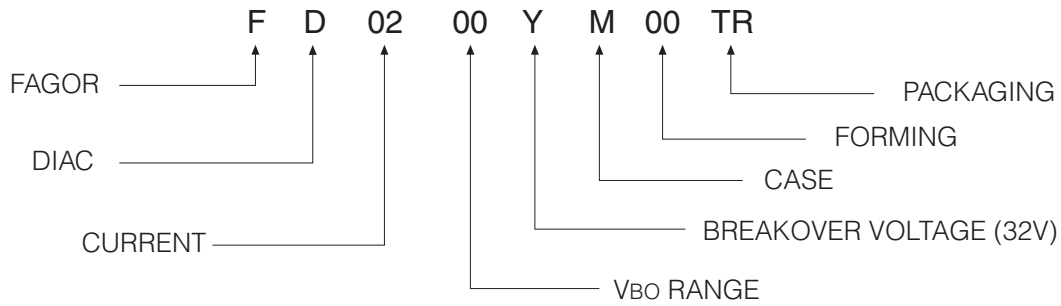
Electrical Characteristics at Tamb = 25 °C

SYMBOL	PARAMETER	CONDITIONS		VALUE		Unit
				FD0200YM FD0230YM	FD0201YM	
V_{BO}	Breakover Voltage *	I_{BO}, C = 22nF ** (see Figure 1)	MIN	28	30	V
			TYP	32	32	
			MAX	36	35	
$\lvert V_{BO+} \rvert - \lvert -V_{BO-} \rvert$	Breakover Voltage Symmetry	I_{BO}, C = 22nF ** (see Figure 1)	MAX	± 3		V
$\lvert \Delta V\pm \rvert$	Dynamic breakover voltage *	$\Delta I = [I_{BO}$ to $I_F = 10$ mA] (see Figure 2)	MIN	5	9	V
V_O	Output Voltage *	(see Figure 3)	MIN	5		V
I_{BO}	Breakover Current *	C = 22 nF **	MAX	50	15	µA
tr	Rise Time *	(see Figure 4)	MAX	2		µs
I_B	Leakage Current *	$V_B = 0.5\ V_{BO}$ max (see Figure 1)	MAX	10		µA
I_P	Peak Current *	see Figure 3 (Gate)	MIN	0.3		A

* Applicable to both forward and reverse directions.
** Connected in parallel with the devices.

Part Number Information



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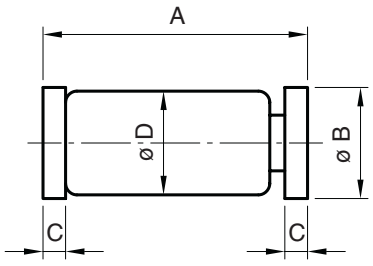
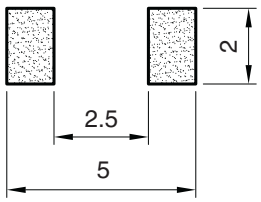
Ordering information

PREFERRED P/N	PACKAGE CODE	DELIVERY MODE	BASE QUANTITY	UNIT WEIGHT (g)
FD0200YM 00TR	TR	7" diameter tape and reel	2500	0.04

Package Outline Dimensions: (mm) SOD80C (MINIMELF)



Mounting Pad Layout



REF.	DIMENSIONS		
	Milimiters		
	Min.	Typ.	Max.
A	3.30	3.50	3.70
B	1.40	1.50	1.60
C	0.35	0.45	0.55
D	1.35	1.40	1.40

Surface Mount DIAC

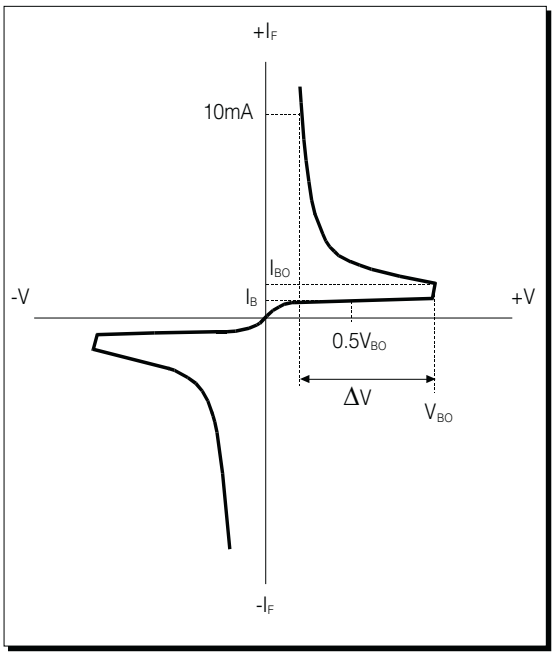


FIGURE 1: Voltage - current characteristic curve.

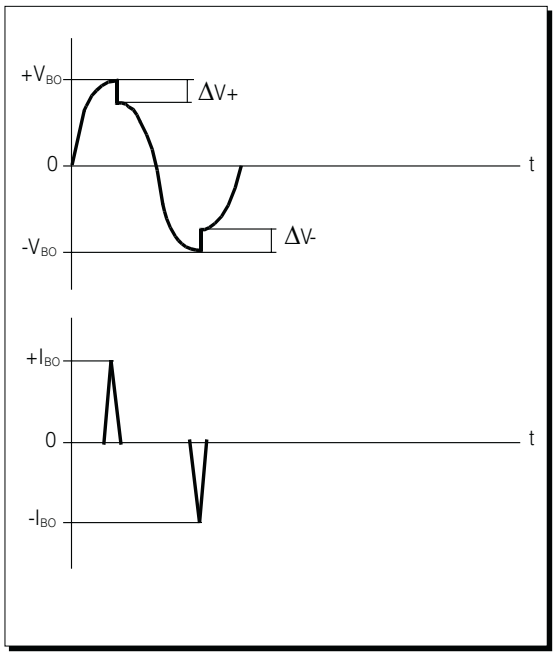


FIGURE 2

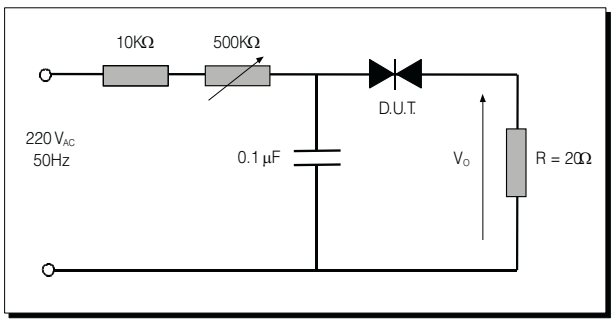


FIGURE 3: Test Circuit for Output Voltage.

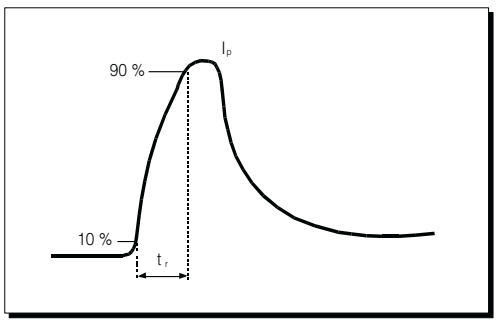


FIGURE 4: Rise time measurement.

Ratings and Characteristics (Ta 25 ºC unless otherwise noted)

Fig. 1: Relative variation of VBO versus junction temperature (typical values)

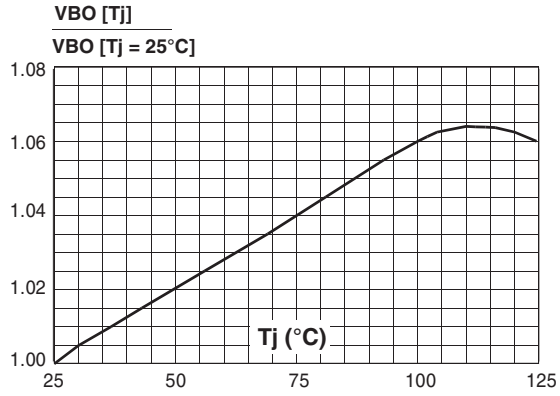


Fig. 2: Repetitive peak pulse current versus pulse duration (maximum values).

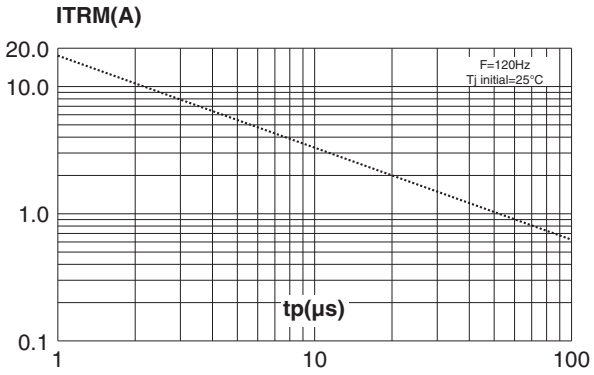


Fig. 3: Time duration while current pulse is higher 50mA versus C and Rs (typical values).

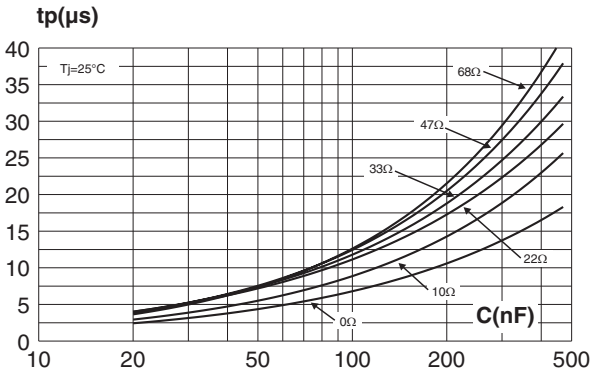
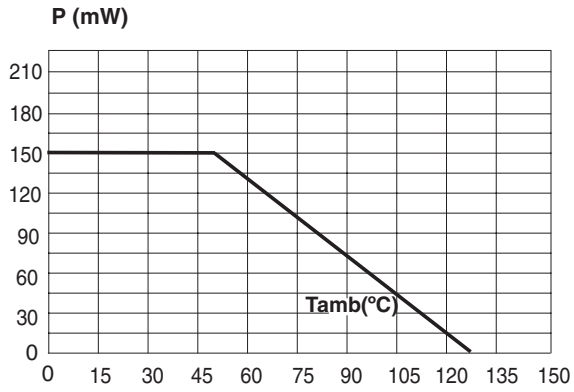


Fig.4: Power dissipation versus ambient temperature (maximum values)



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