

**SURFACE MOUNT
SCHOTTKY BARRIER RECTIFIER**

REVERSE VOLTAGE – 40 Volts
FORWARD CURRENT – 5.0 Amperes

FEATURES

- Very low profile package
- High efficiency
- Extremely fast switching
- Negligible switching losses
- Low forward voltage drop, low power loss
- Qualified to AEC-Q101 Rev_C
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

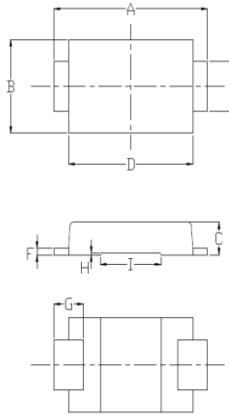
APPLICATION

- Low voltage high frequency inverters
- DC to DC converters
- Polarity protection applications

MECHANICAL DATA

- Package: JEDEC DO-221AC
- Package Material: "Green" molding compound, UL Flammability classification 94V-0, "Halogen-free".
- Moisture Sensitivity: Level 1 per J-STD-020
- Lead free finish, RoHS compliant
- Weight: 0.0354 grams (Approximate)
- Marking code: B540

F3-D



F3-D			
DIM	MIN	TYP	MAX
A	4.80	5.20	5.60
B	2.25	2.80	2.95
C	0.90	1.00	1.10
D	3.95	4.20	4.60
E	1.25	1.50	1.65
F	0.15	0.20	0.40
G	0.75	1.00	1.50
H	0.025	0.05	0.075
I	1.90	2.05	2.20

All dimension in millimeter

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

ABSOLUTE RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	40	V
Maximum DC blocking voltage	V_{DC}	40	V
Maximum Average rectified output current	$I_{(AV)}$	5	A
Peak forward surge current 8.3ms single half sine-wave Superimposed on rated load.	I_{FSM}	140	A
Operating junction and Storage temperature range	T_J, T_{STG}	-55 to +150	°C

STATIC ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage (Note 4)	$I_F=5.0A$ $T_J=25^\circ C$ $T_J=125^\circ C$	V_F	-- 0.483	0.595 --	V
Leakage current	$V_R=40V$ $T_J=25^\circ C$ $T_J=125^\circ C$	I_R	-- 2.82	25 5	uA mA
Typical junction capacitance (Note 5)		C_J		260	pF

THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 6,7)	R_{thJc} R_{thJa}	12 40	°C/W

Notes:

1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. 300us pulse width, 2% duty cycle.
5. Measured at 1.0MHz and applied voltage of 4.0VDC.
6. Thermal resistance test performed in accordance with JESD-51.
7. Unit mounted on glass-epoxy substrate with 1oz/ft²_30 mm x 30 mm copper pad.

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RATING AND CHARACTERISTIC CURVES
FB540D

FIG.1- FORWARD CURRENT DERATING CURVE

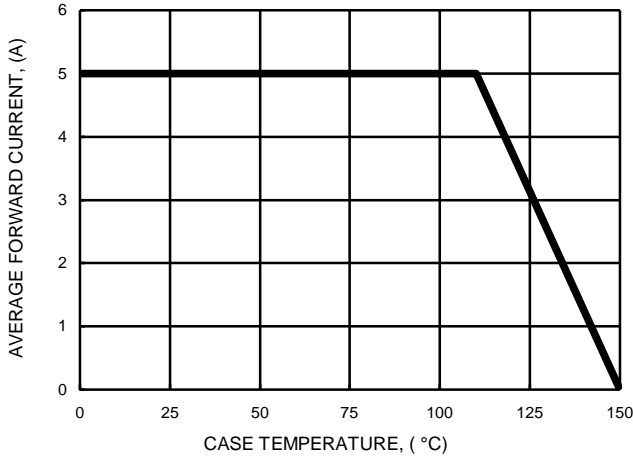


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

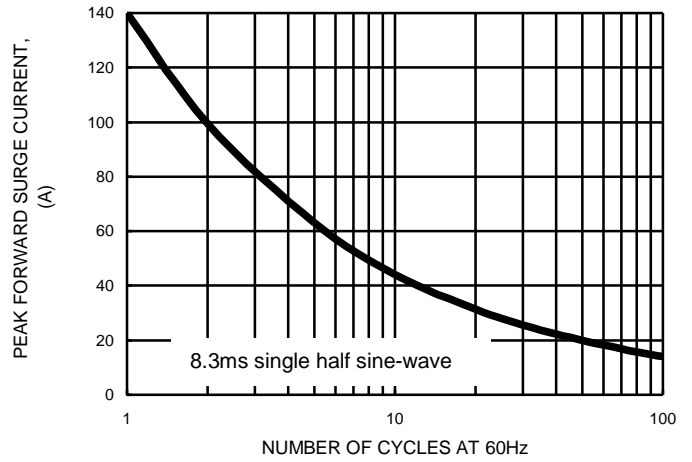


FIG.3- TYPICAL FORWARD CHARACTERISTICS

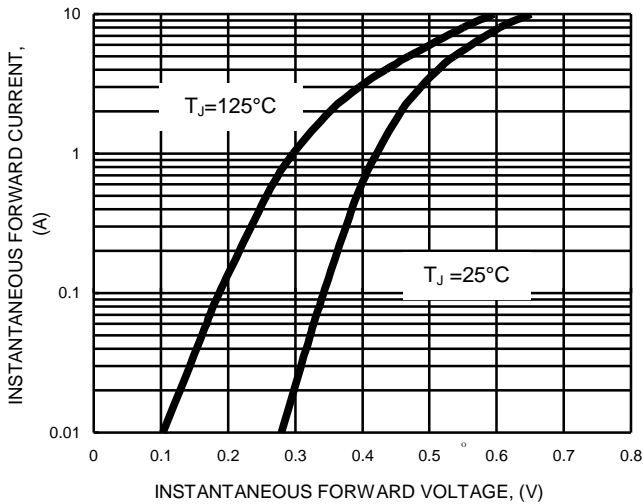


FIG.4- TYPICAL JUNCTION CAPACITANCE

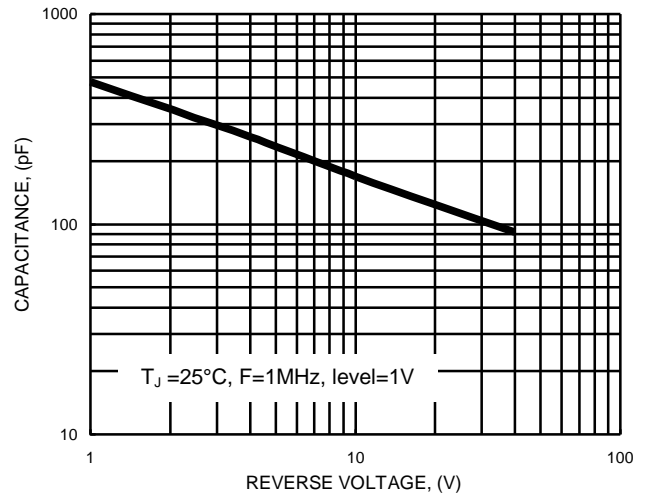
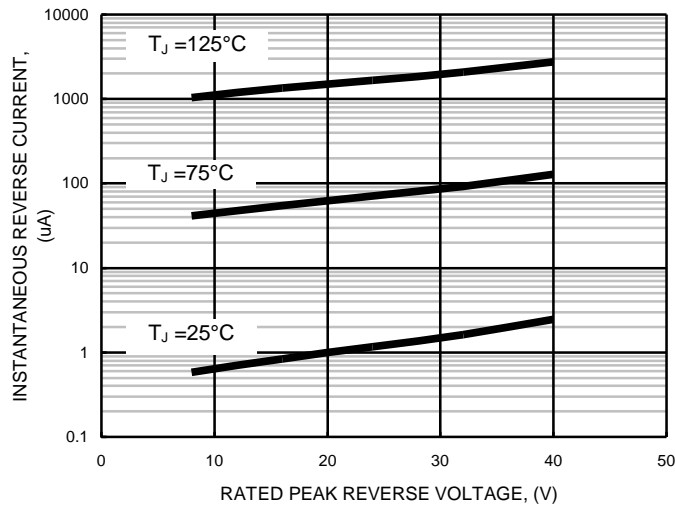


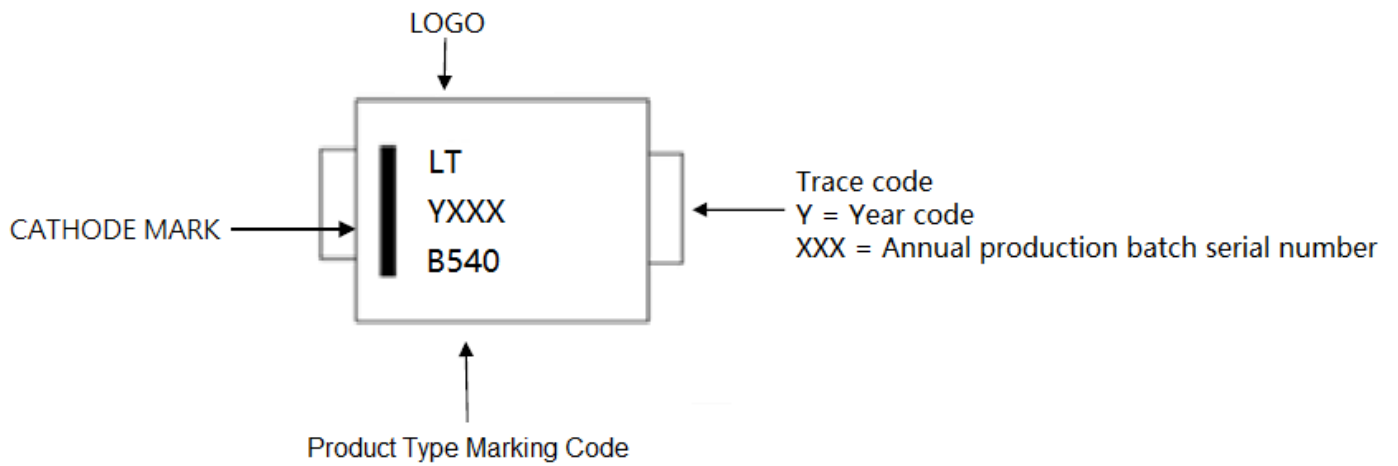
FIG.5- TYPICAL REVERSE CHARACTERISTICS



Ordering Information :

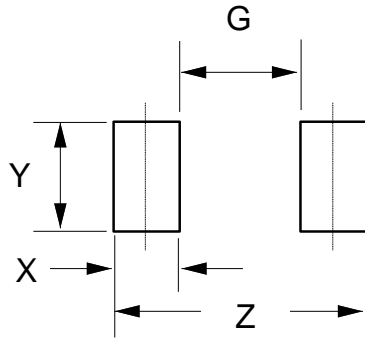
Part Number	Package	Packing	
		Qty.	Carrier
FB540D	F3-D	10000	Tape & Reel

Marking Information :



MECHANICAL INFORMATION
FB540D

SUGGESTED PAD LAYOUT



Dim	DO-221AC
G	2.90
X	2.30
Y	2.40
Z	7.50
All Dimensions in Millimeters	

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