

**SURFACE MOUNT  
SCHOTTKY BARRIER RECTIFIER**

**REVERSE VOLTAGE – 45 Volts  
FORWARD CURRENT – 3.0 Amperes**

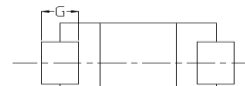
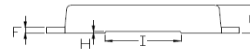
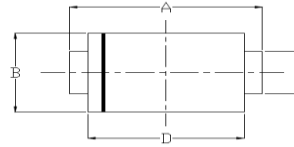
**FEATURES**

- Very low profile package – 1.0mm
- High efficiency
- Extremely fast switching
- Negligible switching losses
- Low forward voltage drop, low power loss
- Qualified according to AEC-Q101 Rev\_C
- IEC 61000-4-2, level 4 ( ESD ),  
> ±15KV ( air ) ; > ±8KV ( contact )
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

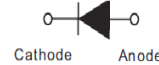
**MECHANICAL DATA**

- Package: JEDEC DO-221 AC
- Molding compound meets UL 94 V-0 flammability rating, "Halogen-free", RoHS-compliant, and commercial grade
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Lead Free Plating (Matte Tin Finish.)
- Component in accordance to RoHS 2002/95/EC
- Marking code: B345

**F3-D**



COLOR BAND DENOTES CATHODE



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	$V_{RRM}$	45	V
Maximum DC blocking voltage	$V_{DC}$	45	V
Average rectified output current	$I_{(AV)}$	3.0	A
Peak forward surge current 8.3ms single half sine-wave Superimposed on rated load.	$I_{FSM}$	80	A
Peak repetitive forward current (Square Wave 50kHz, Duty 10%, $T_C=100^\circ\text{C}$ )	$I_{FRM}$	16	A
Operating junction temperature range	$T_J$	-55 to +125	°C
Storage temperature range	$T_{STG}$	-55 to +150	°C

**STATIC ELECTRICAL CHARACTERISTICS**

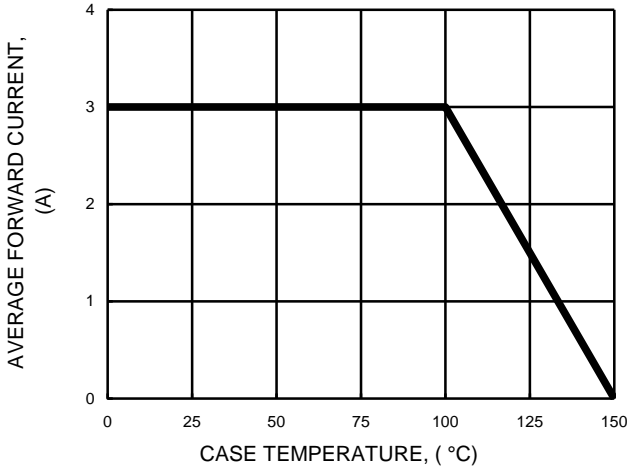
PARAMETER	TEST CONDITIONS	SYMBOL	MAX.	UNIT
Forward voltage (Note 4)	$I_F=3.0\text{A}$ $T_J=25^\circ\text{C}$	$V_F$	0.55	V
Leakage current (Note 4)	$V_R=45\text{V}$ $T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$	$I_R$	0.15 25	mA
Typical junction capacitance (Note 5)		$C_J$	200	pF

**THERMAL CHARACTERISTICS**

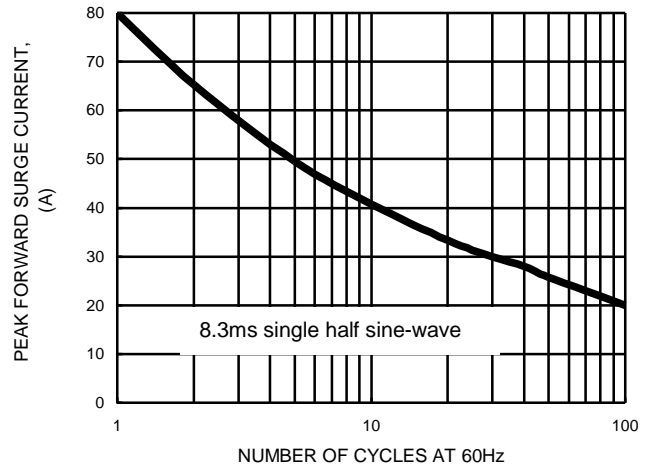
THERMAL CHARACTERISTIC	SYMBOL	TYP.	UNIT
Typical thermal resistance (Note 6)	$R_{thJc}$	13	°C/W
	$R_{thJa}$	26	
	$R_{thJL}$	85	

- 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. Unit mounted on glass-epoxy substrate with 1oz/ft<sup>2</sup> 7 mm x 7 mm copper pad.

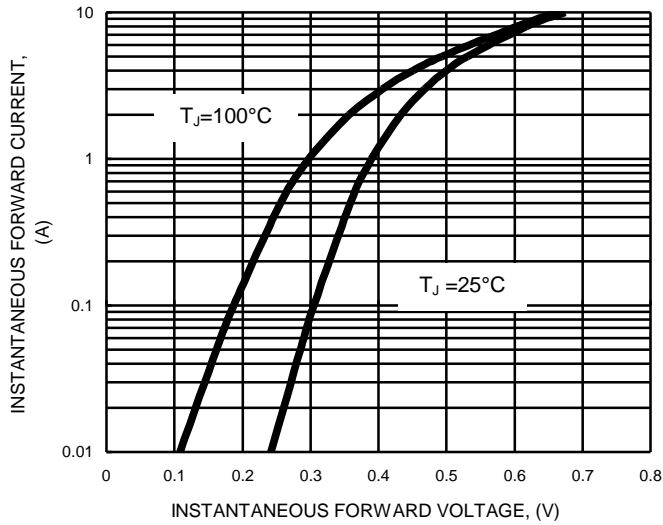
**FIG.1- FORWARD CURRENT DERATING CURVE**



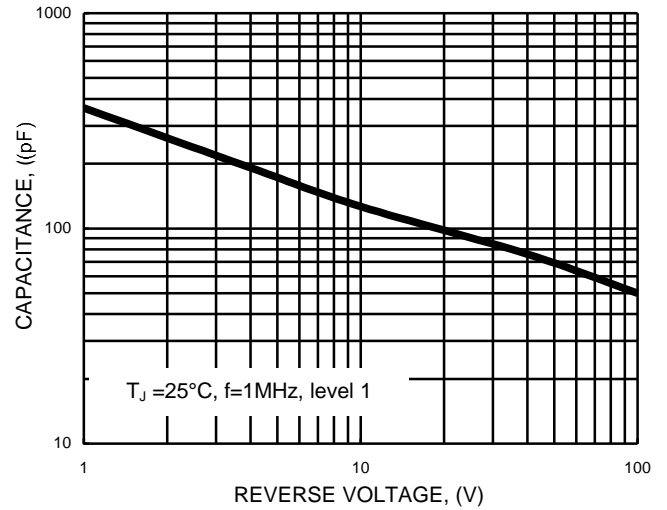
**FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT**



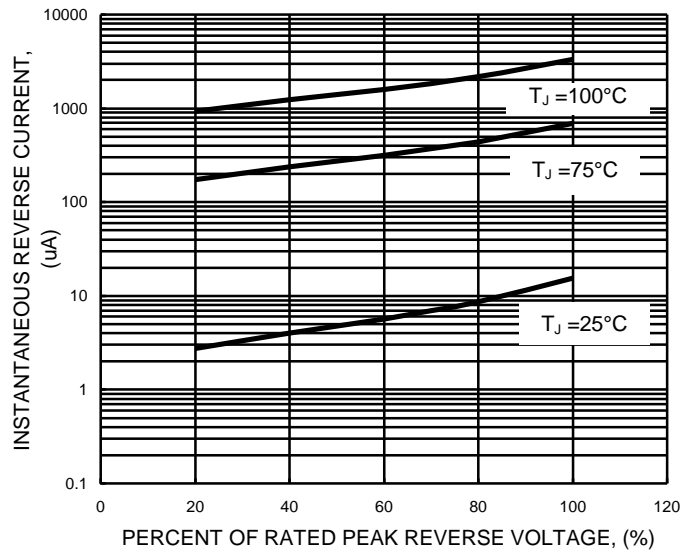
**FIG.3- TYPICAL FORWARD CHARACTERISTICS**



**FIG.4- TYPICAL JUNCTION CAPACITANCE**



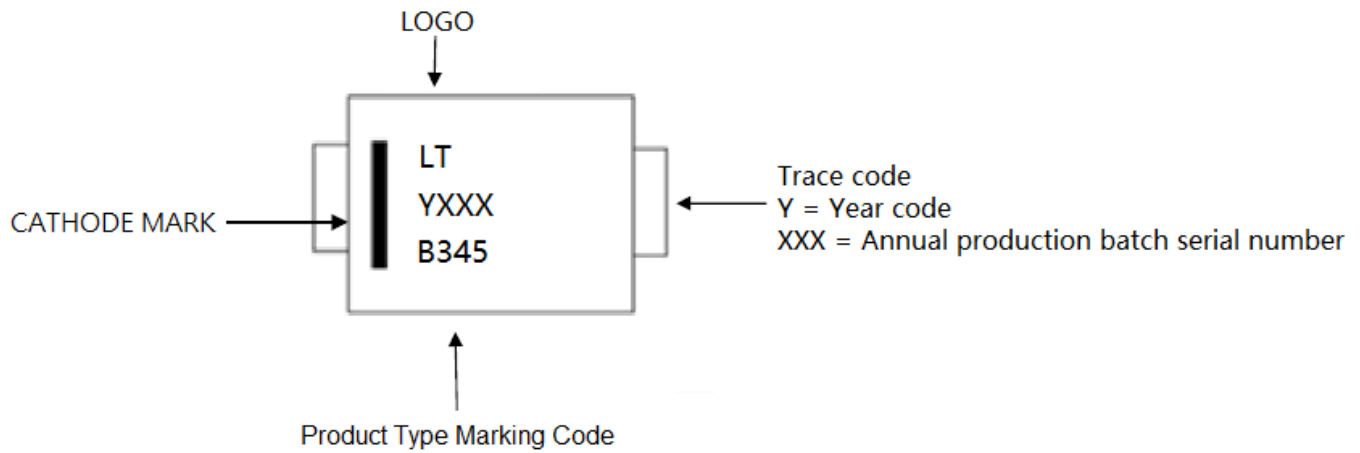
**FIG.5- TYPICAL REVERSE CHARACTERISTICS**



### Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
FB345D	F3-D	10000	Tape & Reel

### Marking Information:



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