

**TRENCH SCHOTTKY RECTIFIER**

**REVERSE VOLTAGE – 100 Volts**  
**FORWARD CURRENT – 40 Amperes**

**FEATURES**

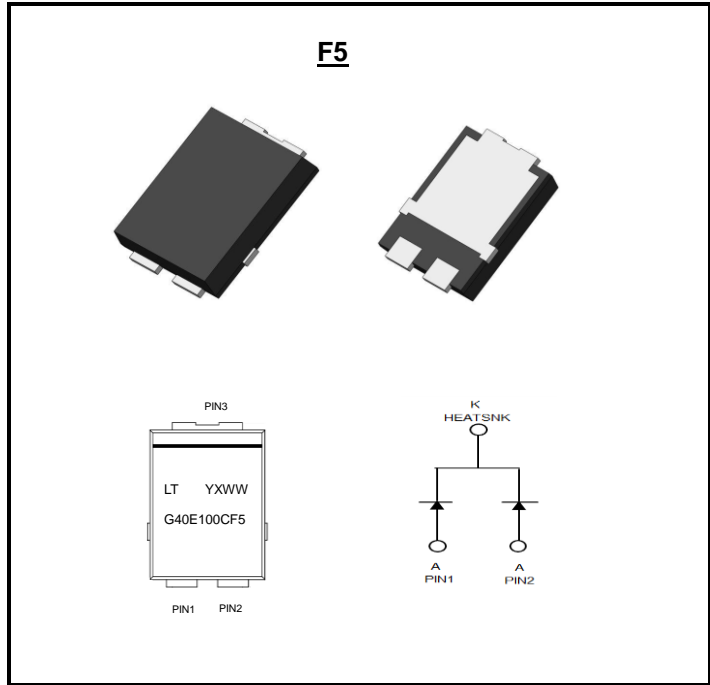
- High efficiency
- Reduced high temperature reverse leakage
- Reduced ultra-low forward voltage drop
- Qualification is according to AEC-Q101 Rev\_C
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

**APPLICATION**

- DC to DC converters
- AC to DC adaptors

**MECHANICAL DATA**

- Package: F5 PAK molded plastic
- 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: 0.989 grams (Approximate)
- Marking code: G40E100CF5



**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	$V_{RRM}$	100	V
Maximum DC blocking voltage	$V_{DC}$	100	V
Maximum Average rectified output current	$I_{(AV)}$	40	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load.	$I_{FSM}$	300	A
Non repetitive peak reverse current	$I_{RSM}$	3	A
Operating junction and Storage Temperature range	$T_J, T_{STG}$	-55 ~ +150	°C

**STATIC ELECTRICAL CHARACTERISTICS**

PARAMETER	TEST CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage (Note 4)	$I_F=20A$ $T_J=25^\circ C$ $T_J=125^\circ C$	$V_F$	-- --	0.71 0.64	V
Reverse Leakage current	$V_R=100V$ $T_J=25^\circ C$ $T_J=125^\circ C$	$I_R$	-- 13.1	100 30	$\mu A$ mA
Typical junction capacitance (Note 5)		$C_J$		1100	pF

**THERMAL CHARACTERISTICS**

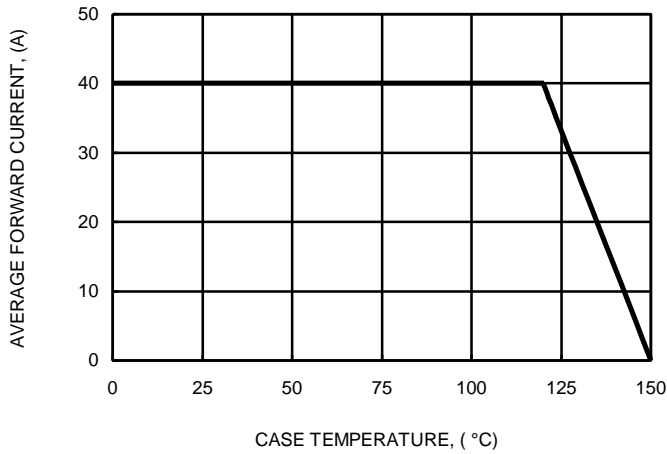
PARAMETER	SYMBOL	TYP	UNIT
Typical thermal resistance (Note 6, 7)	$R_{thJC}$ $R_{thJL}$	1 2	°C/W

**Note:**

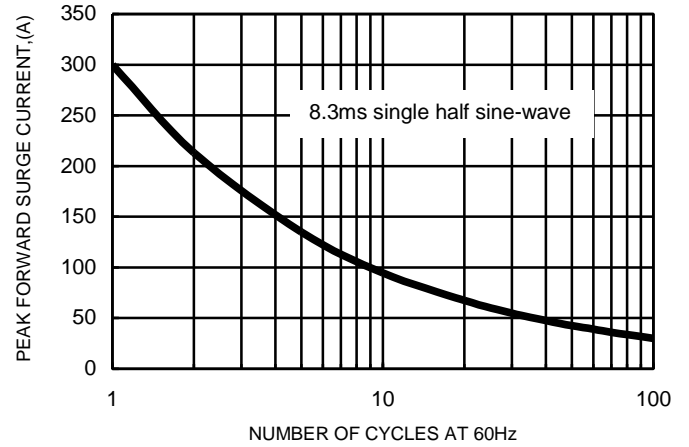
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. 300µs pulse width, 2% duty cycle.
5. Measured at 1.0MHz and applied voltage of 4.0V DC.
6. Thermal resistance test performed in accordance with JESD-51.
7. The unit mounted on copper heatsink (32mm x 85mm x 24.2mm).

**RATING AND CHARACTERISTIC CURVES**  
**G40E100CF5**

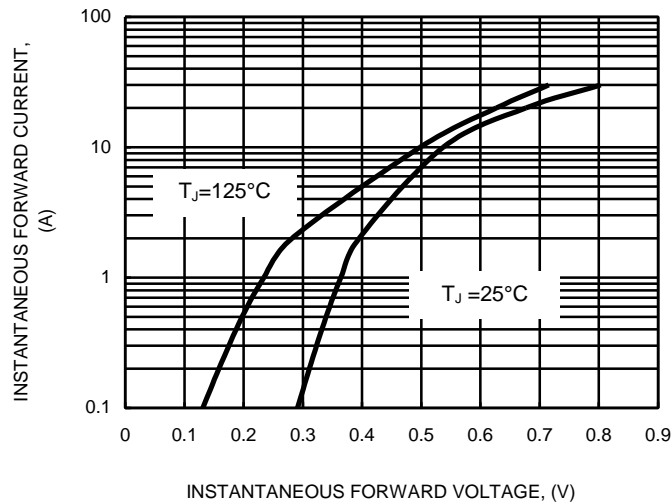
**FIG.1 FORWARD CURRENT DERATING CURVE**



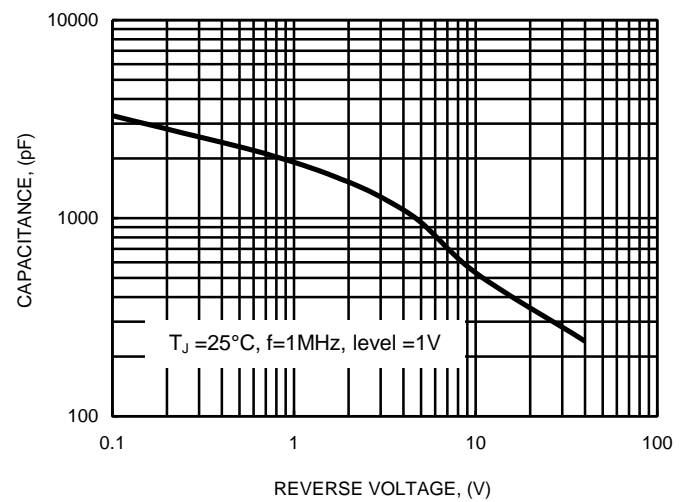
**FIG.2 MAXIMUM NON-REPETITIVE SURGE CURRENT**



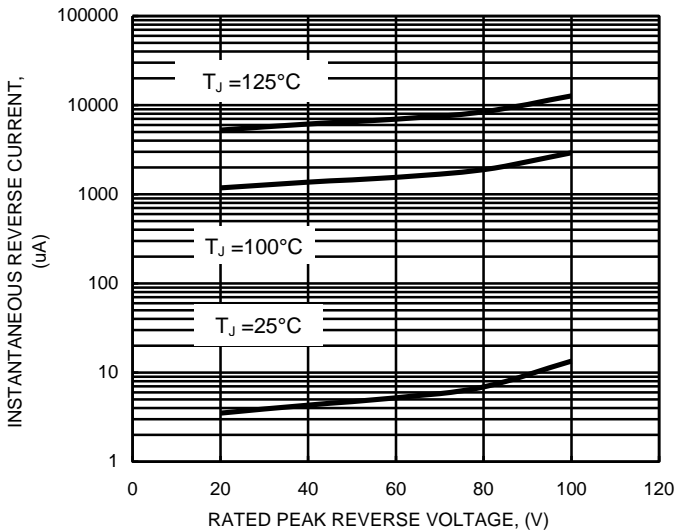
**FIG.3 TYPICAL FORWARD CHARACTERISTICS**



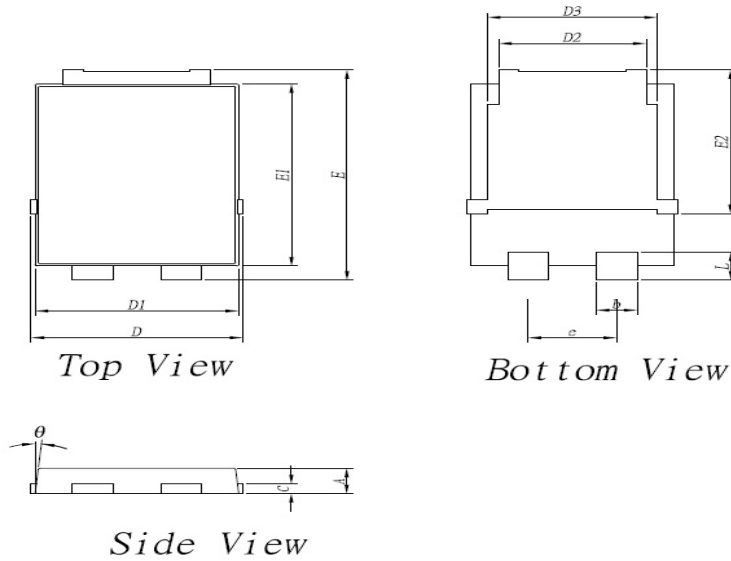
**FIG.4 TYPICAL JUNCTION CAPACITANCE**



**FIG.5 TYPICAL REVERSE CHARACTERISTICS**

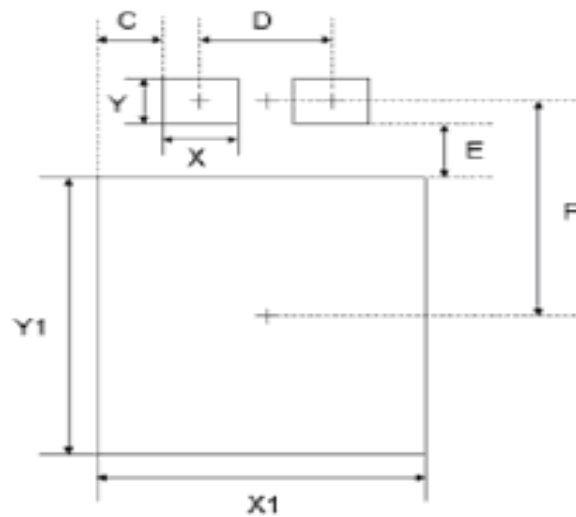


**Package Dimension :**



F5			
DIM	MIN	TYP	MAX
A	1.60	1.80	2.00
b	1.80	2.00	2.30
C	--	0.70	--
D	--	10.40	--
D1	9.80	10.00	10.30
D2	7.00	7.25	7.50
D3	8.10	8.35	8.60
E	14.50	15.00	15.50
E1	12.70	13.00	13.30
E2	10.00	10.25	10.60
e	4.35 REF.		
L	1.70	2.00	2.30
$\theta$	--	--	5°
All dimension in millimeter			

**SUGGESTED PAD LAYOUT :**

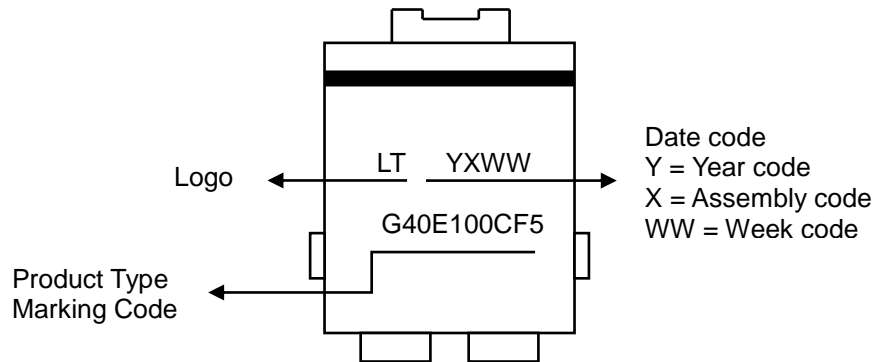


F5		
DIM.	Millimeter	Inches.
C	2.00	0.079
D	4.35	0.171
E	1.60	0.063
F	8.70	0.343
X	3.00	0.118
X1	11.40	0.449
Y	3.00	0.118
Y1	11.25	0.443

### Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
G40E100CF5	F5	1500 pcs	Tape & Reel

### Marking Information:



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