

**SURFACE MOUNT  
SUPER FAST RECTIFIERS**

**REVERSE VOLTAGE – 200 Volts**  
**FORWARD CURRENT – 5.0 Amperes**

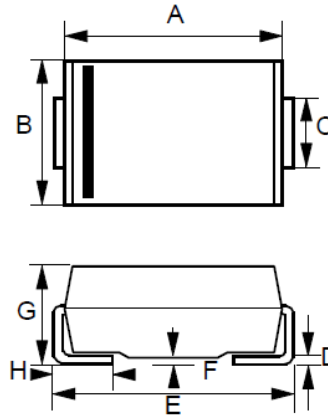
**FEATURES**

- Glass passivated chip
- Super fast switching for high efficiency
- For surface mounted applications
- Low forward voltage drop and high current capability
- Low reverse leakage current
- Qualified according to AEC-Q101 Rev\_C
- Plastic material has UL flammability classification 94V-0
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

**MECHANICAL DATA**

- Case: Molded plastic
- Polarity: Color band denotes cathode
- Weight: 0.007 ounces, 0.21 grams

**SMC**



SMC		
DIM.	MIN.	MAX.
A	6.60	7.11
B	5.59	6.22
C	2.92	3.18
D	0.15	0.31
E	7.75	8.13
F	0.05	0.20
G	2.01	2.50
H	0.76	1.52

All Dimensions in millimeter

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.

CHARACTERISTICS	SYMBOL	ES5D	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	200	V
Maximum DC Blocking Voltage	VDC	200	V
Maximum Average Forward Rectified Current @ $T_c=110^\circ\text{C}$	$I_{AV}$	5.0	A
Peak Forward Surge 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	125	A
Maximum Forward Voltage at 5.0A DC	$V_F$	0.95	V
Maximum DC Reverse Current @ $T_j=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_j=100^\circ\text{C}$	$I_R$	5.0 300	$\mu\text{A}$
Maximum Reverse Recovery time (IF =0.5A , IR=1.0A , IR=0.25 A)	$t_{rr}$	35	ns
Typical Junction Capacitance (Note 4)	$C_j$	50	pF
Typical Thermal Resistance (Note 5, 6)	$R_{\theta JC}$	7	$^\circ\text{C/W}$
	$R_{\theta JL}$	13	
	$R_{\theta JA}$	28	
Operating Junction Temperature Range	$T_j$	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150	$^\circ\text{C}$

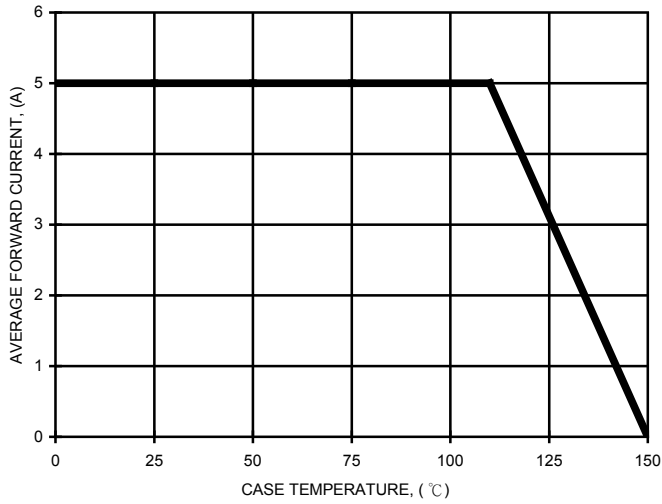
Notes:

- (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) Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
- (5) Thermal Resistance Junction to Case, Lead and Ambient.
- (6) Unit mounted on 75 mm x 75 mm x 2mm copper plate

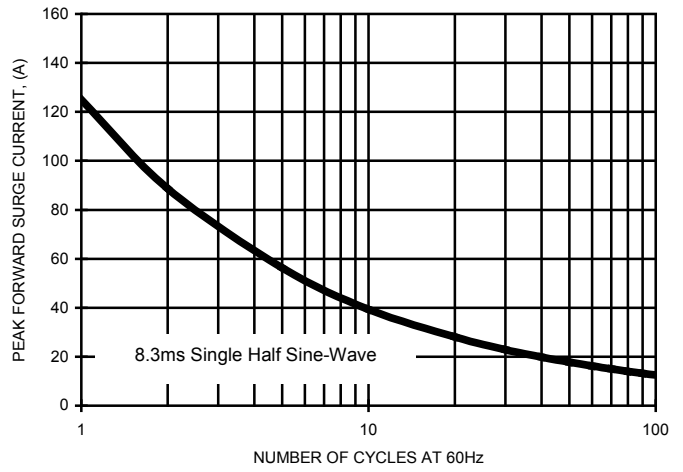
REV.-2, Sep-2021, KSGC05

**RATING AND CHARACTERISTIC CURVES**  
**ES5D(LS)**

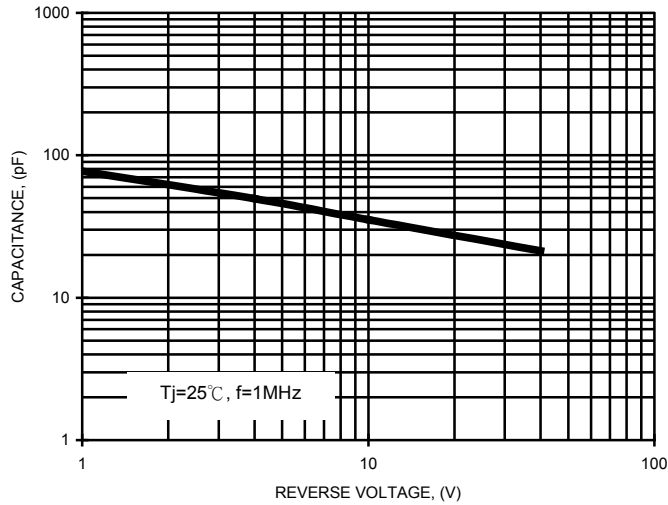
**FIG.1- FORWARD CURRENT DERATING CURVE**



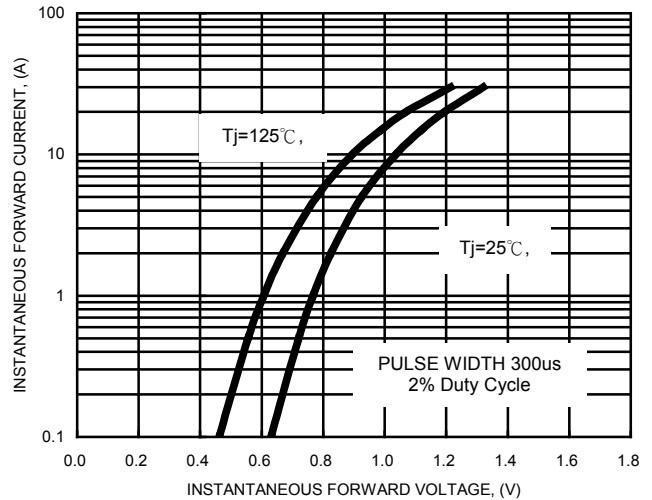
**FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT**



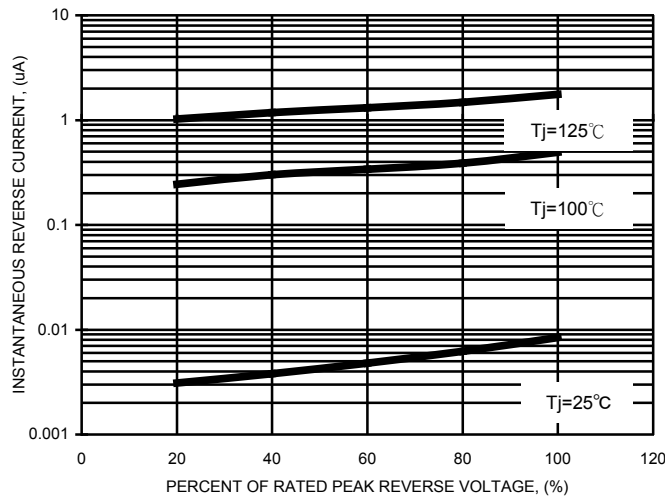
**FIG.3- TYPICAL JUNCTION CAPACITANCE**



**FIG.4- TYPICAL FORWARD CHARACTERISTICS**



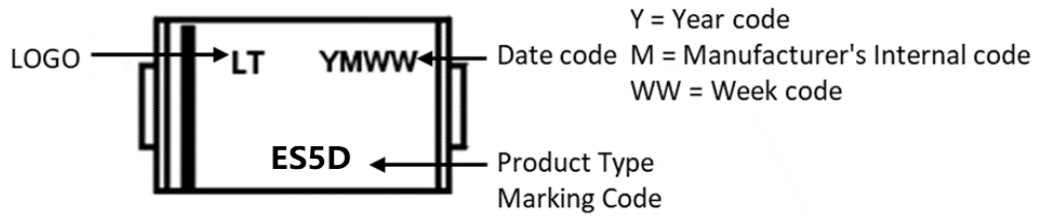
**FIG.5- TYPICAL REVERSE CHARACTERISTICS**



**Ordering Information :**

Part Number	Case	Packaging
ES5D_HF	SMC	3000pcs / Tape & Reel

**Marking Information :**



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