

**SURFACE MOUNT
SUPER FAST RECTIFIERS**

REVERSE VOLTAGE – 600 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
- Qualification is according to AEC-Q101 Rev_C
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

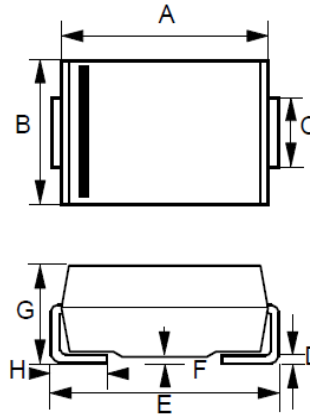
APPLICATION

- Use in PFC Boost stage in the AC/DC section of SMPS
- Inverters
- Freewheeling diodes.

MECHANICAL DATA

- Case: JEDEC DO-214AB
- Case Material: "Green" molding compound ,UL flammability
- Classification 94-0, "Halogen-free".
- Weight: 0.249 grams(Approximate)
- Moisture Sensitivity Level 1 per J-STD-020
- Lead free finish, RoHS compliant
- Marking code:ES5J

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	VALUE	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	600	V
Maximum DC Blocking Voltage	V_{DC}	600	V
Maximum Average Forward Rectified Current @ $T_c=130^\circ C$	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	1.3	V
Maximum DC Reverse Current @ $T_j=25^\circ C$ at Rated DC Blocking Voltage @ $T_j=100^\circ C$	I_R	5.0 300	μA
Maximum Reverse Recovery time ($I_F=0.5A$, $I_R=1.0A$, $I_R=0.25A$)	t_{rr}	50	ns
Typical Junction Capacitance (Note 4)	C_j	50	pF
Typical Thermal Resistance (Note 5, 6)	$R_{\theta JC}$	8	$^\circ C/W$
	$R_{\theta JL}$	8	
	$R_{\theta JA}$	28	
Operating Junction Temperature Range	T_j	-55 to +175	$^\circ C$
Storage Temperature Range	T_{STG}	-55 to +175	$^\circ C$

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 75mm x 75mm x 2mm copper plate

REV.-3, Sep-2021, KSGC06

RATING AND CHARACTERISTIC CURVES
ES5J(LS)

FIG.1- FORWARD CURRENT DERATING CURVE

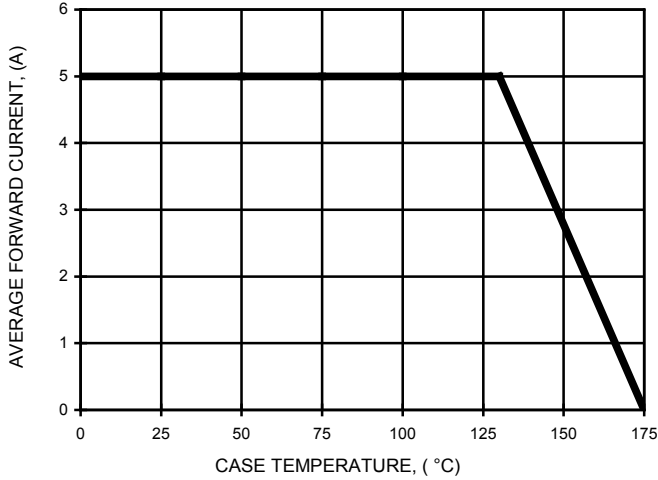


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

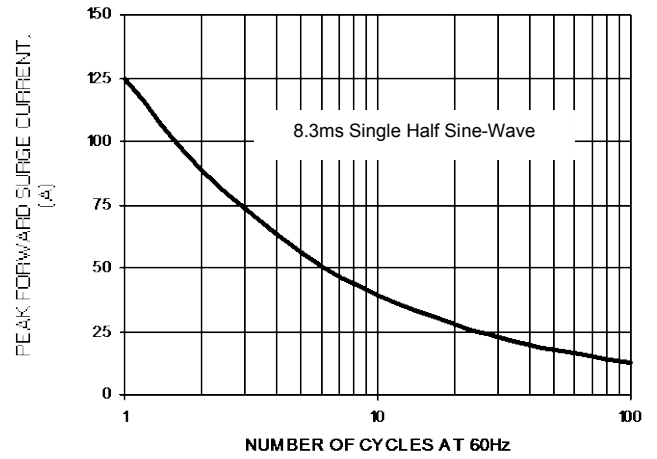


FIG.3- TYPICAL JUNCTION CAPACITANCE

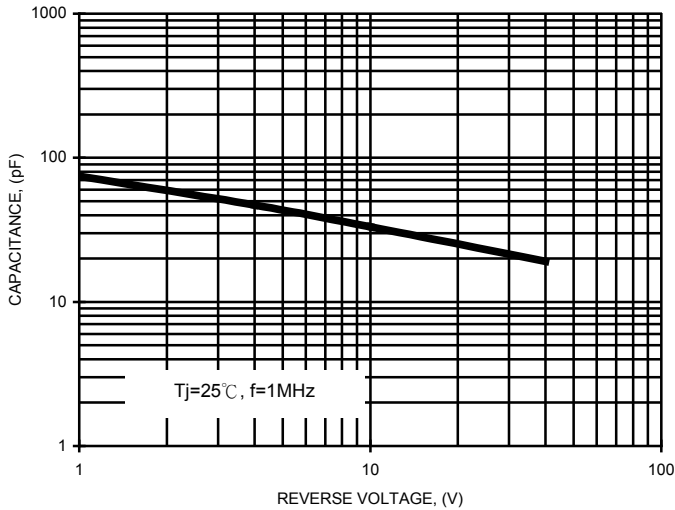


FIG.4- TYPICAL FORWARD CHARACTERISTICS

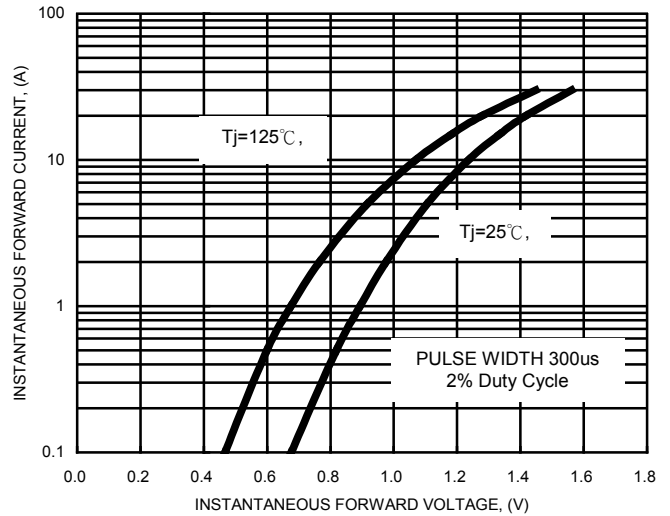
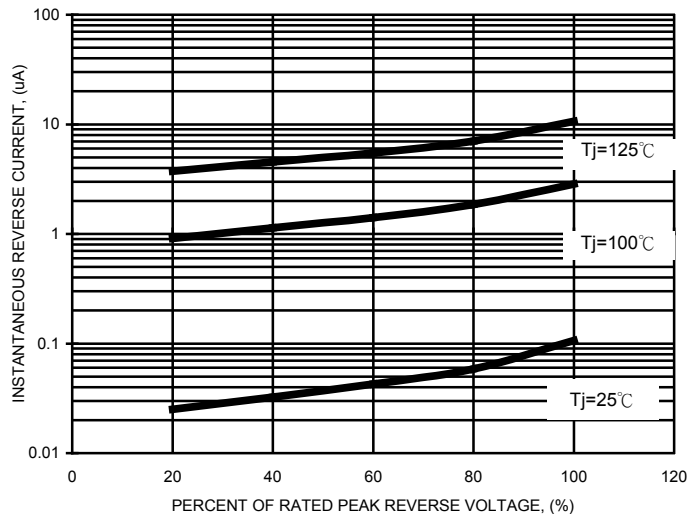


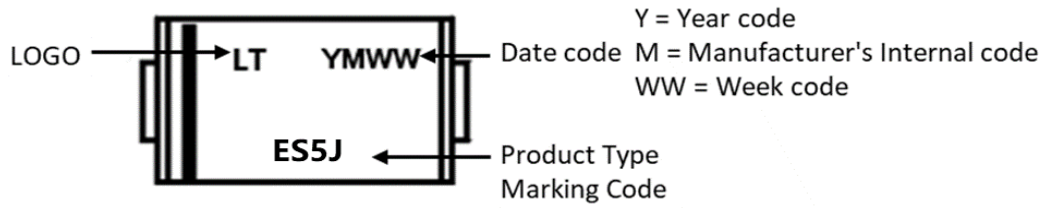
FIG.5- TYPICAL REVERSE CHARACTERISTICS



Ordering Information :

Part Number	Case	Packaging
ES5J_HF	SMC	3000pcs / Tape & Reel

Marking Information :



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