LITE-ON SEMICONDUCTOR

ES1A thru ES1J

SURFACE MOUNT
SUPER FAST RECTIFIERS

REVERSE VOLTAGE - **50** to **400** Volts
FORWARD CURRENT - **1.0** Ampere

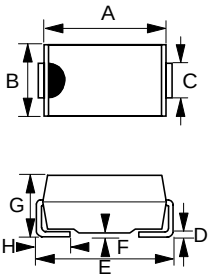
FEATURES

- 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
- Plastic material has UL flammability classification 94V-0

MECHANICAL DATA

- Case : Molded plastic
- Polarity : Indicated by cathode band
- Weight : 0.002 ounces, 0.064 grams

SMA



SMA		
DIM.	MIN.	MAX.
A	4.06	4.57
B	2.29	2.92
C	1.27	1.63
D	0.15	0.31
E	4.83	5.59
F	0.05	0.20
G	2.01	2.62
H	0.76	1.52
All Dimensions in millimeter		

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%

CHARACTERISTICS	SYMBOL	ES1A	ES1B	ES1C	ES1D	ES1G	ES1J	UNIT
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	400	600	V
Maximum RMS Voltage	V_{RMS}	35	70	105	140	280	420	V
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	400	600	V
Maximum Average Forward Rectified Current @TL =110°C	$I_{(AV)}$	1.0						A
Peak Forward Surge Current 8.3ms single half sine-wave super imposed on rated load (JEDEC METHOD)	I_{FSM}	30						A
Maximum forward Voltage at 1.0A DC	V_F	0.92				1.25	1.30	V
Maximum DC Reverse Current @TJ =25°C at Rated DC Blocking Voltage @TJ=125°C	I_R	5.0 200						uA
Maximum Reverse Recovery Time (Note 1)	T_{RR}	25					35	ns
Typical Reverse Recovery Time	T_{RR}	20					30	ns
Typical Junction Capacitance (Note 2)	C_J	10						pF
Typical Thermal Resistance (Note 3)	$R_{\theta JL}$	25						°C/W
Operating Temperature Range	T_J	-55 to + 150						°C
Storage Temperature Range	T_{STG}	-55 to + 150						°C

NOTES : 1.Reverse Recovery Test Conditions : I_F=0.5A, I_R=1.0A, I_{RR}=0.25A.
2.Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
3.Thermal Resistance junction to Lead.

REV. 3, 25-Mar-2002, KSGA01

FIG.1 - FORWARD CURRENT DERATING CURVE

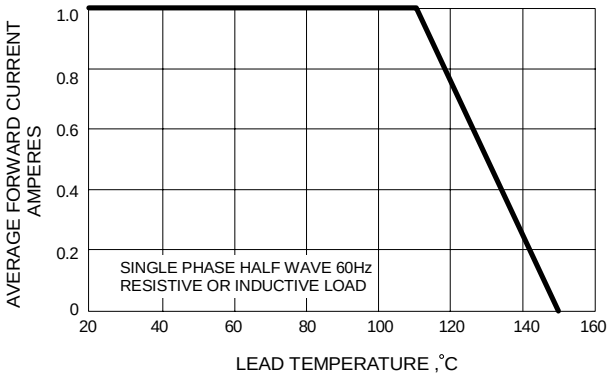


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

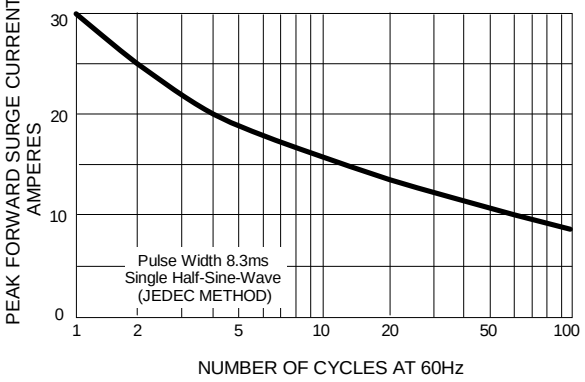


FIG.3 - TYPICAL FORWARD CHARACTERISTICS

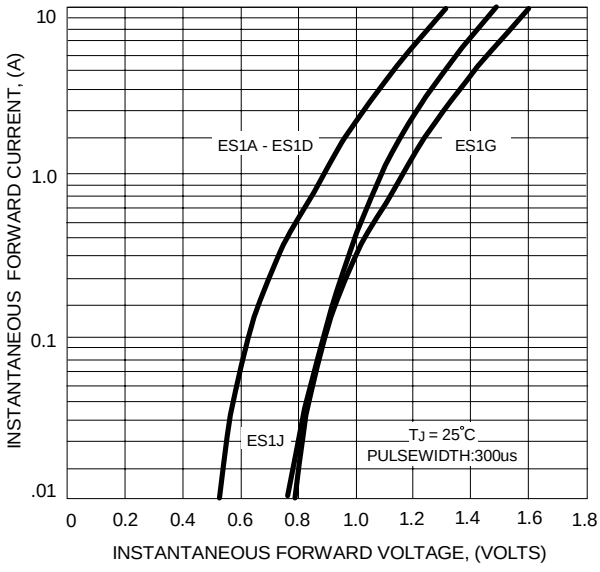


FIG.4 - TYPICAL REVERSE CHARACTERISTICS