



Micro Commercial Components



Micro Commercial Components  
20736 Marilla Street Chatsworth  
CA 91311  
Phon : (818) 701-4933  
Fax: (818) 701-4939

**ES1A-L  
THRU  
ES1J-L**

## Features

- Lead Free Finish/RoHS Compliant (Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Built-in strain relief
- Super fast switching speed under 35ns
- Marking : Cathode band and type number (No '-L' Suffix)
- Halogen free available upon request by adding suffix "-HF"

## Maximum Ratings

- Operating Temperature: -65°C to +175°C
- Storage Temperature: -65°C to +175°C
- Maximum Thermal Resistance: 35°C/W Junction To Lead  
85°C/W Junction To Ambient

MCC Part Number	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
ES1A-L	50V	35V	50V
ES1B-L	100V	70V	100V
ES1D-L	200V	140V	200V
ES1G-L	400V	280V	400V
ES1J-L	600V	420V	600V

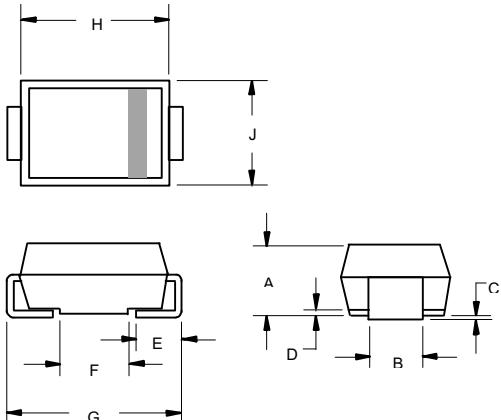
## Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	1.0A	$T_L = 125^\circ C$
Peak Forward Surge Current	$I_{FSM}$	30A	8.3ms, half sine
Maximum Instantaneous Forward Voltage ES1A-L-ES1D-L ES1G-L ES1J-L	$V_F$	.95V 1.25V 1.70V	$I_{FM} = 1.0A$ ;
Maximum DC Reverse Current At Rated DC Blocking Voltage	$I_R$	5 $\mu$ A 80 $\mu$ A	$T_A = 25^\circ C$ $T_A = 100^\circ C$
Maximum Reverse Recovery Time	$T_{rr}$	35ns	$I_F=0.5A$ , $I_R=1.0A$ , $I_{rr}=0.25A$
Typical Junction Capacitance	$C_J$	15pF	Measured at 1.0MHz, $V_R=4.0V$

Notes: 1. High Temperature Solder Exemption Applied, see EU Directive Annex Notes 7.

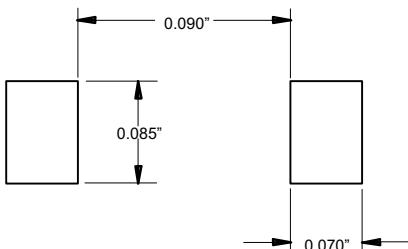
**1 Amp Super Fast Recovery Rectifier  
50 to 600 Volts**

**DO-214AC  
(SMA) (LEAD FRAME)**



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.079	.096	2.00	2.44	
B	.050	.064	1.27	1.63	
C	.002	.008	.05	.20	
D	—	.02	—	.51	
E	.030	.060	.76	1.52	
F	.065	.091	1.65	2.32	
G	.189	.220	4.80	5.59	
H	.157	.181	4.00	4.60	
J	.090	.115	2.25	2.92	

### SUGGESTED SOLDER PAD LAYOUT



# ES1A-L thru ES1J-L

FIG.1-TYPICAL FORWARD CHARACTERISTICS

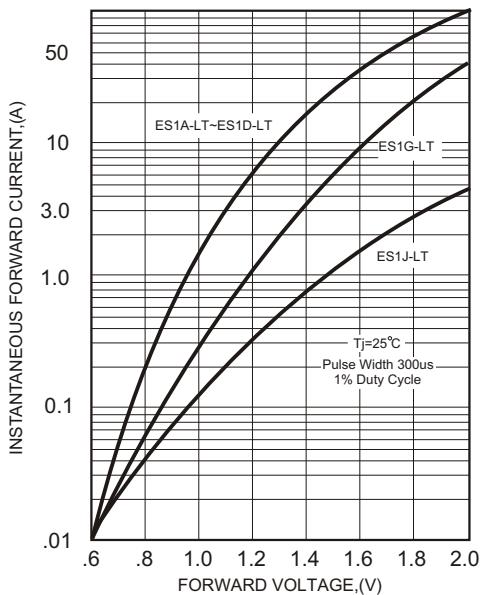
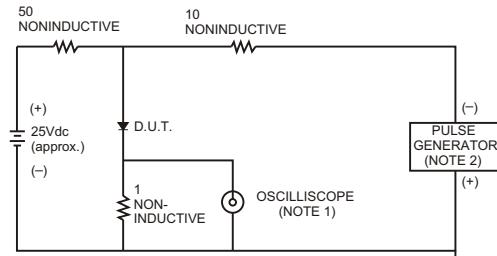


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.

2. Rise Time= 10ns max., Source Impedance= 50 ohms.

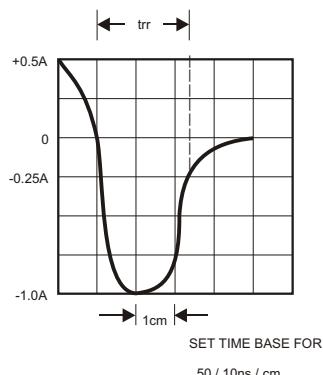


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

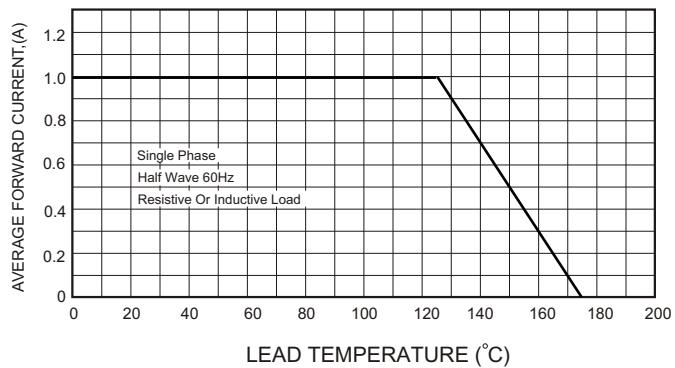


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

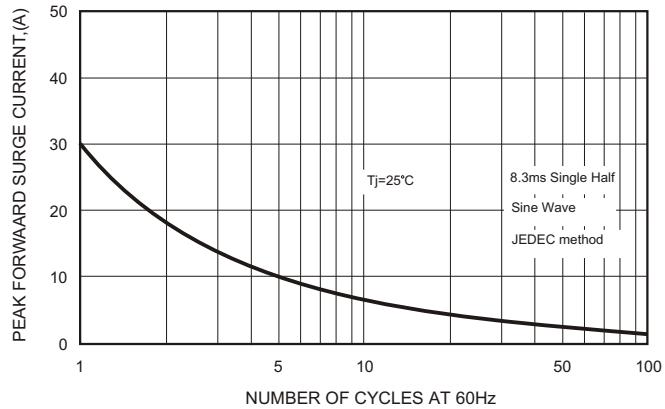
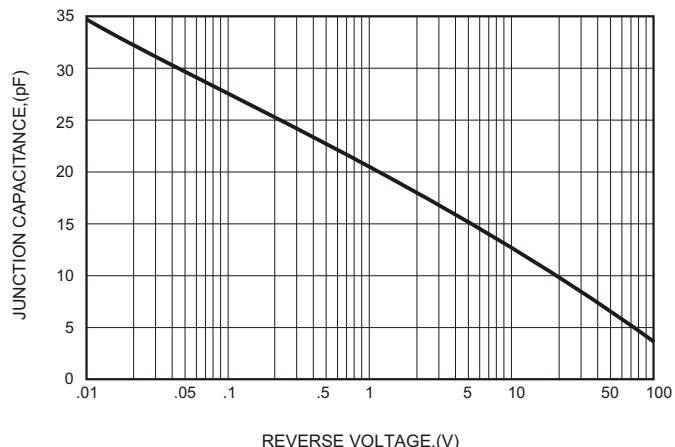


FIG.5-TYPICAL JUNCTION CAPACITANCE





Micro Commercial Components

## Ordering Information :

Device	Packing
ES1A-LTP~ ES1J-LTP	Tape&Reel: 5Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. ES1A-LTP- HF-ES1J-LTP-HF

### \*\*\*IMPORTANT NOTICE\*\*\*

**Micro Commercial Components Corp.** reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp.** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp.** and all the companies whose products are represented on our website, harmless against all damages.

### \*\*\*LIFE SUPPORT\*\*\*

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

### \*\*\*CUSTOMER AWARENESS\*\*\*

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.