

Excellent Integrated System Limited

Stocking Distributor

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[Micro Commercial Components \(MCC\)](#)
[ES1A-TP](#)

For any questions, you can email us directly:

sales@integrated-circuit.com

**NOT RECOMMENDED FOR NEW DESIGNS
 USE ES1A-LTP~ES1J-LTP SERIES**



Micro Commercial Components
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 CA 91311
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 Fax: (818) 701-4939

Features

- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- High Temp Soldering: 260°C for 10 Seconds At Terminals
- Superfast Recovery Times For High Efficiency

Maximum Ratings

- Operating Temperature: -50°C to +150°C
- Storage Temperature: -50°C to +150°C
- Maximum Thermal Resistance; 15°C/W Junction To Lead

MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
ES1A	ES1A	50V	35V	50V
ES1B	ES1B	100V	70V	100V
ES1C	ES1C	150V	105V	150V
ES1D	ES1D	200V	140V	200V
ES1G	ES1G	400V	280V	400V
ES1J	ES1J	600V	420V	600V
ES1K	ES1K	800V	560V	800V
ES1M	ES1M	1000V	700V	1000V

Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	1.0A	$T_a = 75^\circ\text{C}$
Peak Forward Surge Current	I_{FSM}	30A	8.3ms, half sine
Maximum Instantaneous Forward Voltage	V_F	.975V	$I_{FM} = 1.0A;$ $T_J = 25^\circ\text{C}^*$
ES1A-D		1.35V	
ES1G-J ES1K~M		1.70V	
Maximum DC Reverse Current At Rated DC Blocking Voltage	I_R	5μA 100μA	$T_J = 25^\circ\text{C}$ $T_J = 100^\circ\text{C}$
Maximum Reverse Recovery Time	T_{rr}	50ns	$I_F = 0.5A, I_R = 1.0A,$ $I_{rr} = 0.25A$
ES1A-D		75ns	
ES1G-K ES1M		100ns	
Typical Junction Capacitance	C_J	45pF	Measured at 1.0MHz, $V_R = 4.0V$

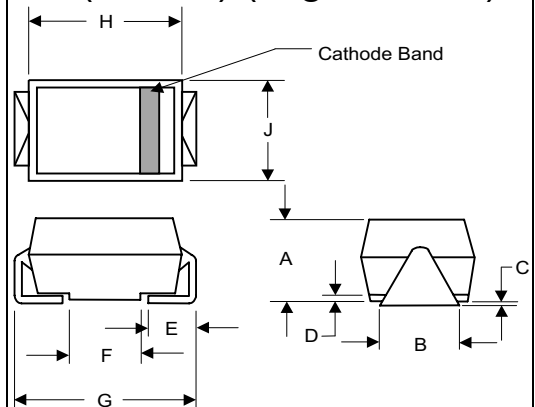
*Pulse test: Pulse width 200 μsec, Duty cycle 2%

Note: 1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7.

**ES1A
 THRU
 ES1M**

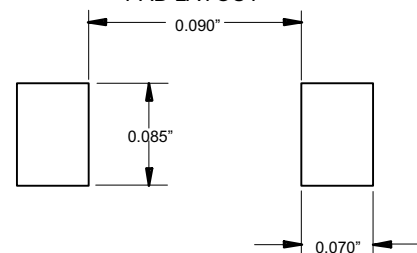
**1 Amp Ultra Fast
 Recovery
 Silicon Rectifier
 50 to 1000 Volts**

**DO-214AC
 (HSM) (High Profile)**



DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	.078	.116	1.98	2.95	
B	.067	.089	1.70	2.25	
C	.002	.008	.05	.20	
D	---	.02	---	.51	
E	.035	.055	.89	1.40	
F	.065	.096	1.65	2.45	
G	.205	.224	5.21	5.69	
H	.160	.180	4.06	4.57	
J	.100	.112	2.57	2.84	

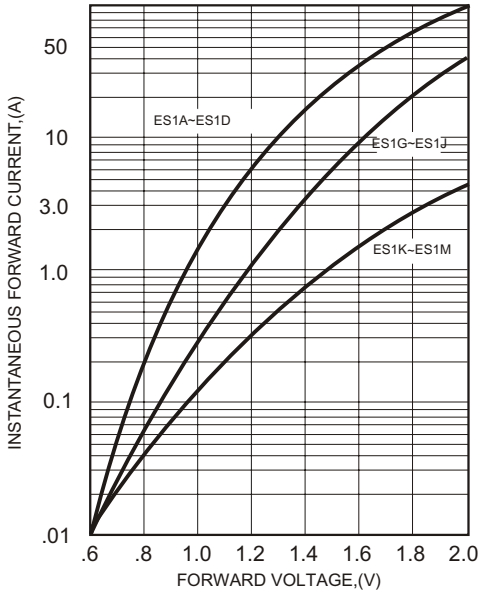
**SUGGESTED SOLDER
 PAD LAYOUT**



ES1A thru ES1M

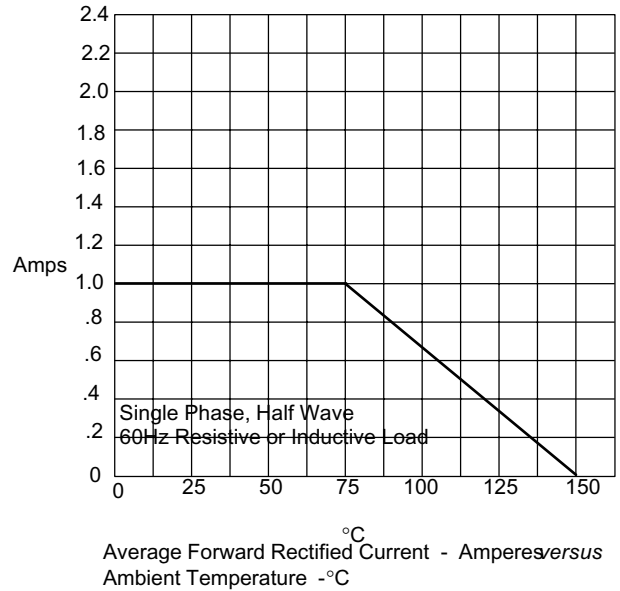


Figure 1
Typical Forward Characteristics



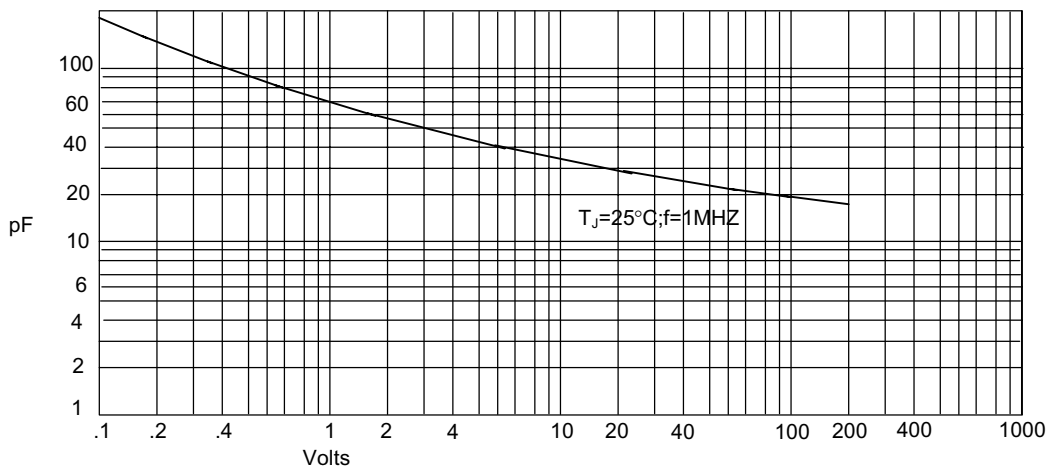
Instantaneous Forward Current - Amperes versus
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve



Average Forward Rectified Current - Amperes versus
Ambient Temperature - °C

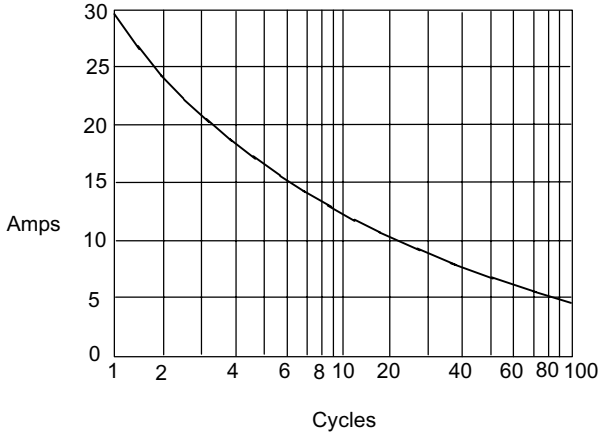
Figure 3
Junction Capacitance



Junction Capacitance - pF versus
Reverse Voltage - Volts

ES1A thru ES1M

Figure 4
Peak Forward Surge Current



Peak Forward Surge Current - Amperes versus
Number Of Cycles At 60Hz - Cycles

Figure 5
Typical Reverse Characteristics

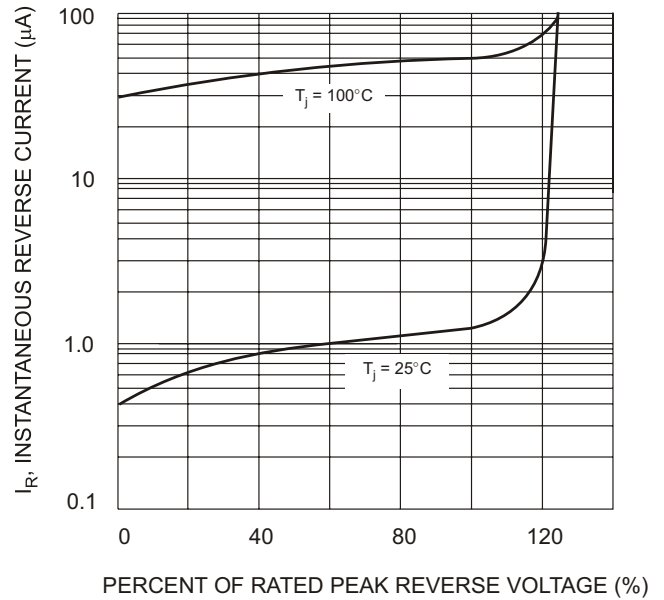
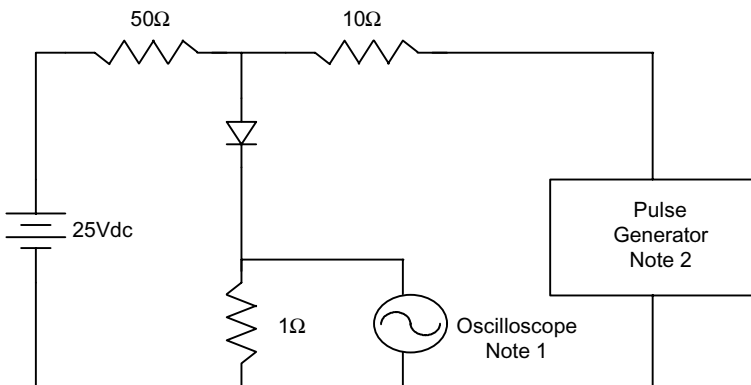


Figure 6
Reverse Recovery Time Characteristic And Test Circuit Diagram



Notes:

1. Rise Time = 7ns max.
Input impedance = 1 megohm, 22pF
2. Rise Time = 10ns max.
Source impedance = 50 ohms
3. Resistors are non-inductive

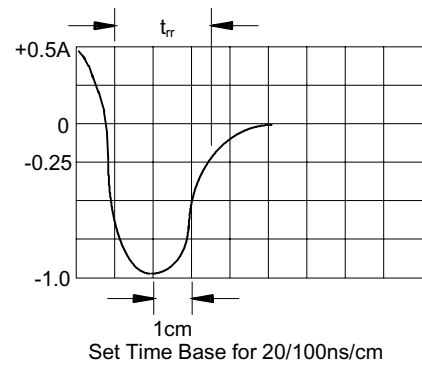
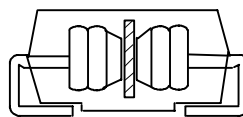


Figure 7
New SMA Assembly



Round Lead
Process



Micro Commercial Components

Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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