



ES1A THRU ES1J

1.0 AMP. SUPER FAST RECOVERY SILICON RECTIFIERS



FEATURES

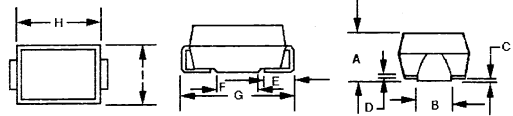
- * For surface mount application
- * Extremely low thermal resistance
- * Easy pick and place
- * High temp soldering: 250°C for 10 seconds at terminals
- * Superfast recovery times for high efficiency

MECHANICAL DATA

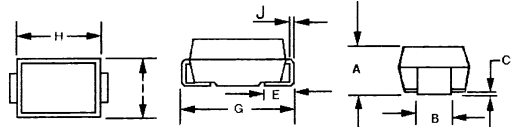
- * Case: Molded plastic
- * Terminals: Solder plated
- * Polarity: Indicated by cathod band
- * Standard Packaging: 12mm tape per (EIA STD RS-481)
- * Weight: 0.091 gram (SMA*)
0.064 gram ((SMA))

VOLTAGE RANGE
50 to 600 Volts

SMA/DO-214AC*



SMA/DO-214AC



DIMENSIONS				
	SMA/DO-214AC*		SMA/DO-214AC	
	inches	mm	inches	mm
A	.078 to .116 (L)	1.98 to 2.95 (L)	.078 to .090	1.98 to 2.29
A	.110 to .117 (H)	2.80 to 2.98 (H)		
B	.067 to .088	1.7 to 2.24	.052 to .058	1.32 to 1.47
C	.005MAX	0.20MAX	.008MAX	0.20MAX
D	.008MAX	.51MAX		
E	.030 to .080	.76 to 1.52	.030 to .050	.76 to 1.27
F	.078 to .094	1.98 to 2.39		
G	.204 to .220	5.21 to 5.59	.194 to .208	4.93 to 5.28
H	.180 to .179	4.06 to 4.55	.157 to .177	3.98 to 4.50
I	.101 to .112	2.56 to 2.85	.100 to .110	2.54 to 2.79
J			.008 to .012	.152 to .305

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Maximum thermal resistance: 15°C/W Junction to lead.
Rating at 25°C ambient temperature unless otherwise specified.

TYPE NUMBER	SYMBOLS	ES1A	ES1B	ES1C	ES1D	ES1G	ES1J	UNITS
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	50	200	400	600	V
Maximum Average Forward Rectified Current T _L = 75°C	I _{F(AV)}	1.0						A
Peak Forward Surge Current, 8.3 ms half sine	I _{FSM}	30						A
Maximum Instantaneous I _{FM} = 2.0A Forward Voltage (Note 1)	V _F	0.95				1.35	1.7	V
Maximum D. C Reverse Current @ T _A = 25°C at Rated D. C. Blocking Voltage @ T _A = 100°C	I _R	5 100						μA
Maximum Reverse Recovery Time (Note 2)	T _{rr}	35						nS
Typical Junction Capacitance (Note 3)	C _J	15				10		pF
Operating and Storage Temperature Range	T _J / T _{STG}	- 50 to + 150 / - 50 to + 150						°C

NOTES: 1. Pulse test: Pulse width 300 μs , Duty cycle 2%
2. Reverse Recovery Test Conditions: $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{RR} = 0.25\text{A}$
3. Measured at 1 MHz and applied reverse voltage of 4.0V DC.

RATINGS AND CHARACTERISTIC CURVES (ES1A THRU ES1J)

Figure 1 – Typical Forward Characteristics

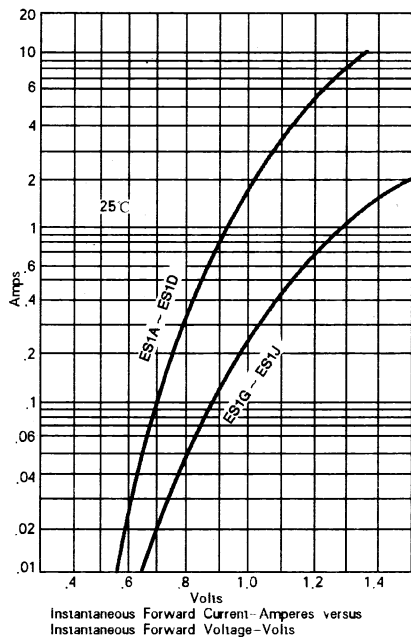


Figure 2 – Forward Current Derating Curve

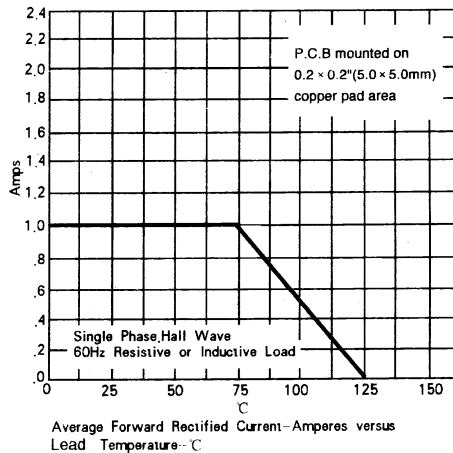
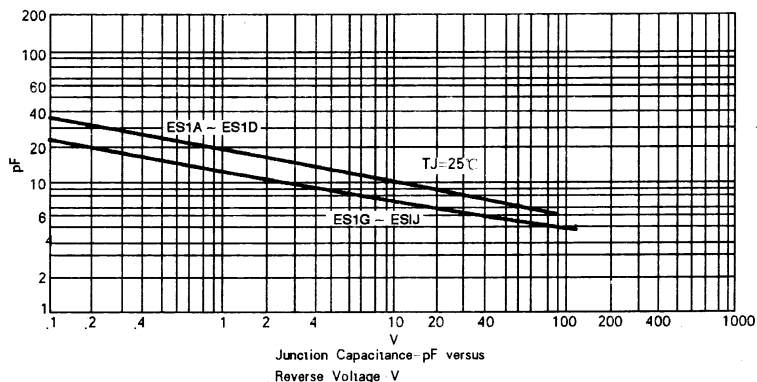
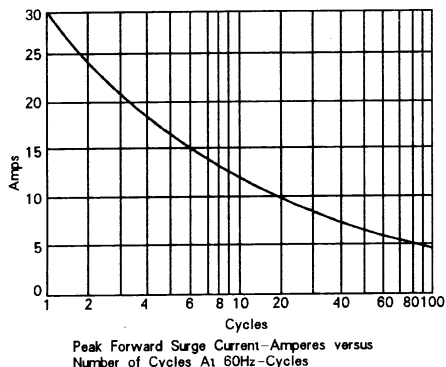


Figure 3 – Typical Junction Capacitance



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Figure 4 – Maximum Non – repetitive Surge Current



SUGGESTED SOLDER
PAD LAYOUT

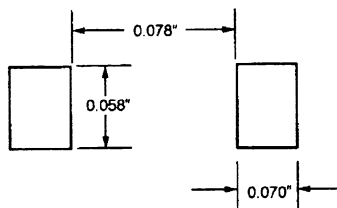


Figure 5 – Reverse Recovery Time Characteristic And Test Circuit Diagram

