

### III. Fast / Ultra Fast / Super Fast Recovery Rectifier

#### 1.0A Surface Mount Super Fast Recovery Rectifier

#### ES1A~ES1M

(Package: SMA (DO-214AC))

<p><b>FEATURES</b></p> <ul style="list-style-type: none"> <li>• The plastic package carries Underwriters Laboratory Flammability Classification 94V-0</li> <li>• For surface mounted applications</li> <li>• Super fast switching for high efficiency</li> <li>• Low reverse leakage</li> <li>• Built-in strain relief, ideal for automated placement</li> <li>• High forward surge current capability</li> <li>• High temperature soldering guaranteed: 250 /10 seconds at terminals</li> </ul> <p><b>MECHANICAL DATA</b></p> <ul style="list-style-type: none"> <li>• Case : JEDEC DO-214AC molded plastic body</li> <li>• Terminals : Solder plated, solderable per MIL-STD-750, method 2026</li> <li>• Polarity : Color band denotes cathode end</li> <li>• Mounting position : Any</li> <li>• Weight : 0.083 grams</li> </ul>	<p>Case: SMA Dimensions in inches and (millimetres)</p>
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### Ratings & Electrical Characteristics

Ratings at 25 ambient temperature unless otherwise specified.

Single phase half wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Characteristics	Symbol	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	ES1K	ES1M	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	600	800	1000	Volts
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	420	560	700	Volts
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	600	800	1000	Volts
Maximum average forward rectified current at $T_L = 90$	$I_o$	1.0									Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30.0									Amps
Maximum instantaneous forward voltage at 1.0 A	$V_F$	0.95			1.35		1.70	2.00		Volts	
Maximum DC reverse current at rated DC blocking voltage $T_a = 25$ $T_a = 100$	$I_R$	5.0					50.0				$\mu A$
Maximum reverse recovery time (Note 1)	$T_{rr}$	35					ns				
Typical junction capacitance (Note 2)	$C_j$	15.0					PF				
Typical thermal resistance (Note 3)	$R_{th-JA}$	60.0					/W				
Operating Junction and storage temperature range	$T_j, T_{stg}$	-65 to +150									

Notes:

1. Reverse recovery test conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$
2. Measured at 1.0 MHz and applied reverse voltage of 4.0 volts D.C.
3. Units mounted on P.C.B. with 0.2"x0.2" (5.0x5.0mm) copper pad areas.

# Ratings and Characteristic Curves of ES1A~ES1M

