

# ES1A-W THRU ES1J-W

## 1.0A Surface Mount Super Fast Rectifiers-50-600V

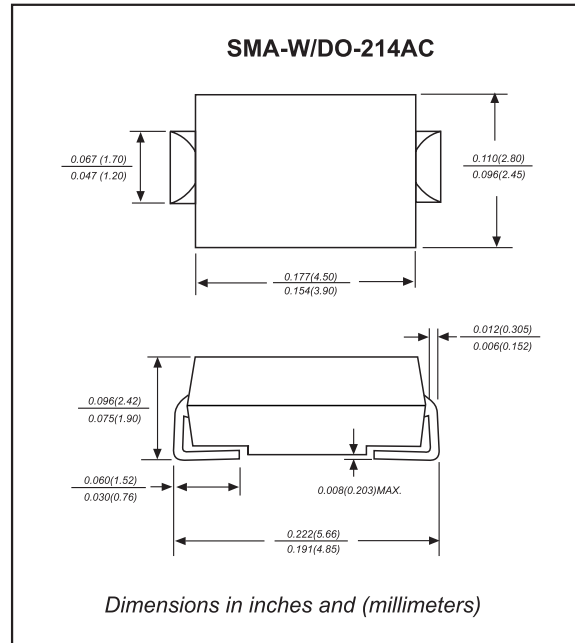
### Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Super fast switching for high efficiency
- ◆ Low reverse leakage
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 250°C/10 seconds at terminals
- ◆ Compliant to RoHS Directive 2011/65/EU
- ◆ Suffix "-H" indicates Halogen-free part, ex. ES1J-W-H

### Mechanical data

- ◆ **Case:** JEDEC DO-214AC molded plastic body
- ◆ **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
- ◆ **Polarity:** Color band denotes cathode end
- ◆ **Mounting Position:** Any
- ◆ **Weight:** 0.002 ounce, 0.07 grams

### Package outline



### Maximum ratings and Electrical Characteristics (AT T<sub>A</sub>=25°C unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.2	I <sub>O</sub>			1.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC method)	I <sub>FSM</sub>			30	A
Reverse current	V <sub>R</sub> = V <sub>RRM</sub> T <sub>A</sub> = 25°C	I <sub>R</sub>			5.0	μA
	V <sub>R</sub> = V <sub>RRM</sub> T <sub>A</sub> = 100°C				50	
Thermal resistance	Junction to ambient NOTE 1	R <sub>θJA</sub>		60		°C/W
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C <sub>J</sub>		15		pF
Storage temperature		T <sub>STG</sub>	-65		+125	°C

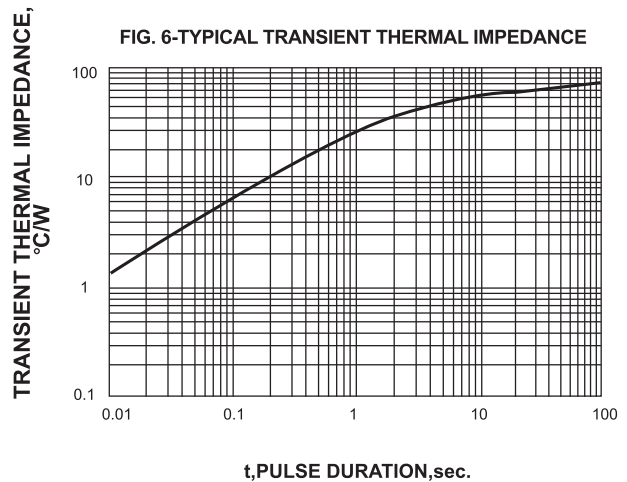
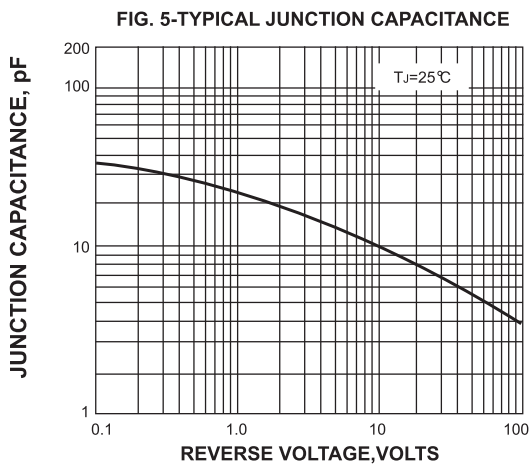
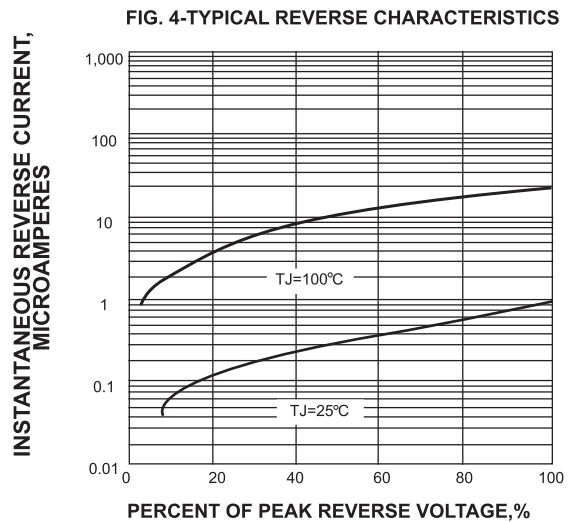
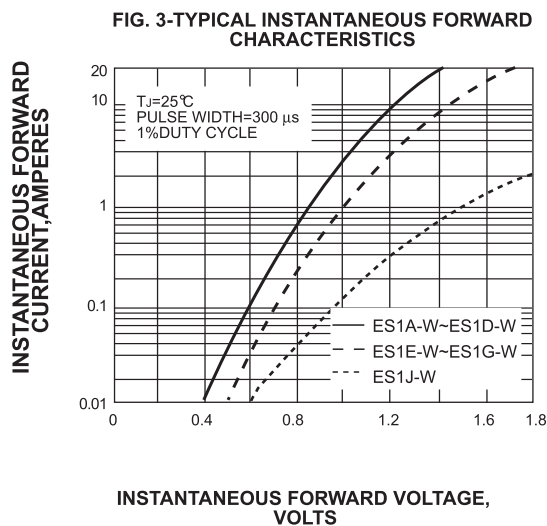
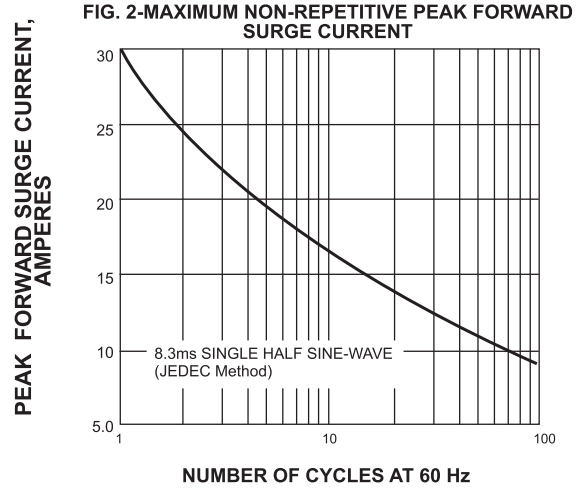
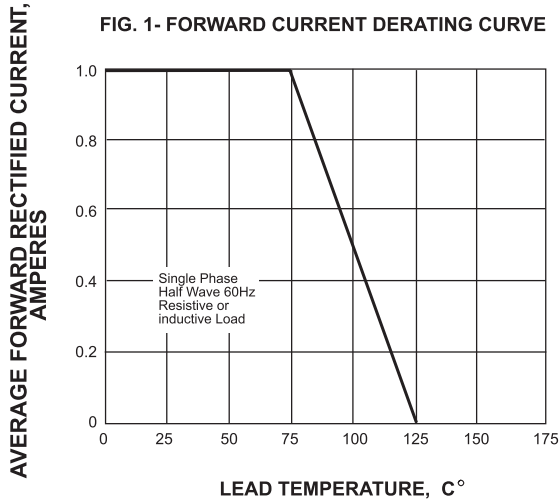
SYMBOLS	V <sub>RRM</sub> <sup>*1</sup> (V)	V <sub>RMS</sub> <sup>*2</sup> (V)	V <sub>R</sub> <sup>*3</sup> (V)	V <sub>F</sub> <sup>*4</sup> (V)	t <sub>rr</sub> <sup>*5</sup> (ns)	Operating temperature T <sub>J</sub> , (°C)
ES1A-W	50	35	50	0.95	35	-55 to +125
ES1B-W	100	70	100			
ES1C-W	150	105	150			
ES1D-W	200	140	200			
ES1E-W	300	210	300	1.25	35	-55 to +125
ES1G-W	400	280	400			
ES1J-W	600	420	600			

- \*1 Repetitive peak reverse voltage
- \*2 RMS voltage
- \*3 Continuous reverse voltage
- \*4 Maximum forward voltage@I<sub>F</sub>=1.0A
- \*5 Maximum Reverse recovery time, note 2

Note: 1.P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas  
2. Reverse recovery time test condition, I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A



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Rating and characteristic curves

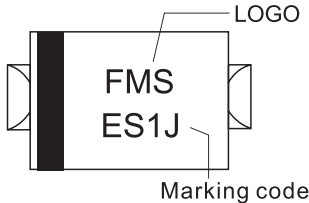
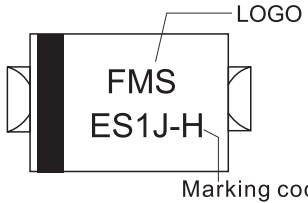


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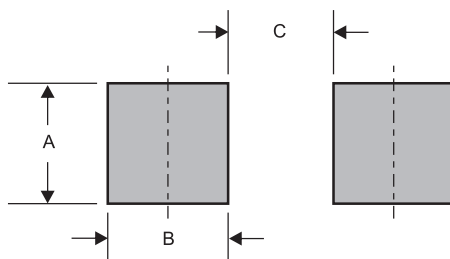
## Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

## Marking

Type number	Marking code	Example	
ES1A-W	ES1A	For Halogen Device	For Halogen-free Device
ES1B-W	ES1B		
ES1C-W	ES1C		
ES1D-W	ES1D		
ES1E-W	ES1E		
ES1G-W	ES1G		
ES1J-W	ES1J		

## Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMA-W	0.110 (2.80)	0.063 (1.60)	0.087 (2.20)

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