

ES1A-A THRU ES1J-A

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

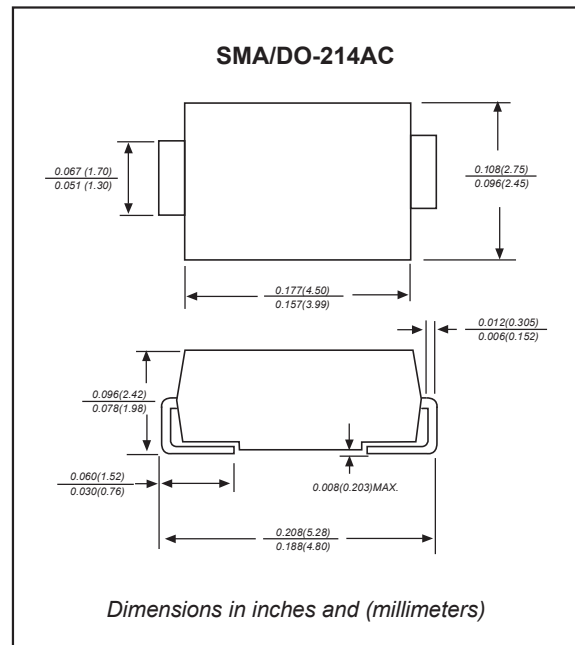
Features

- ◆ 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
- ◆ Glass passivated chip junction
- ◆ Compliant to RoHS Directive 2011/65/EU
- ◆ Suffix "-H" indicates Halogen-free part, ex. ES1J-A-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 $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.2	I_O			1.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			30	A
Reverse current	$V_R = V_{RRM}$ $T_A = 25^\circ\text{C}$	I_R			5.0	μA
	$V_R = V_{RRM}$ $T_A = 100^\circ\text{C}$				50	
Thermal resistance	Junction to ambient NOTE 1	$R_{\theta JA}$		60		$^\circ\text{C/W}$
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		15		pF
Storage temperature		T_{STG}	-65		+150	$^\circ\text{C}$

SYMBOLS	V _{RRM} ^{*1} (V)	V _{RMS} ^{*2} (V)	V _R ^{*3} (V)	V _F ^{*4} (V)	t _{rr} ^{*5} (ns)	Operating temperature T _J , (°C)
ES1A-A	50	35	50	0.95	35	-55 to +150
ES1B-A	100	70	100			
ES1C-A	150	105	150			
ES1D-A	200	140	200			
ES1E-A	300	210	300	1.25		
ES1G-A	400	280	400			
ES1J-A	600	420	600	1.70		

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

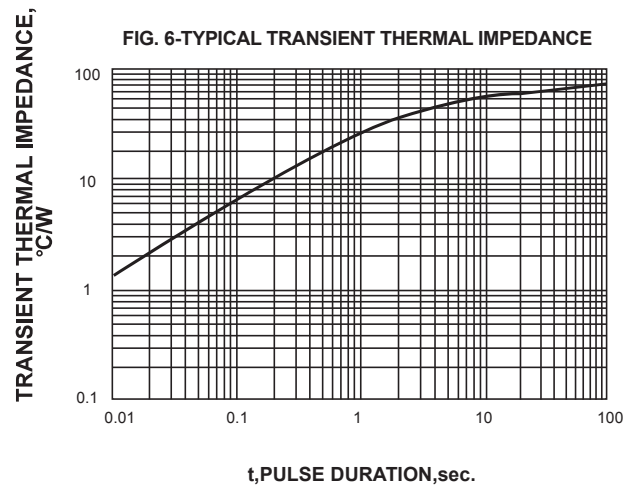
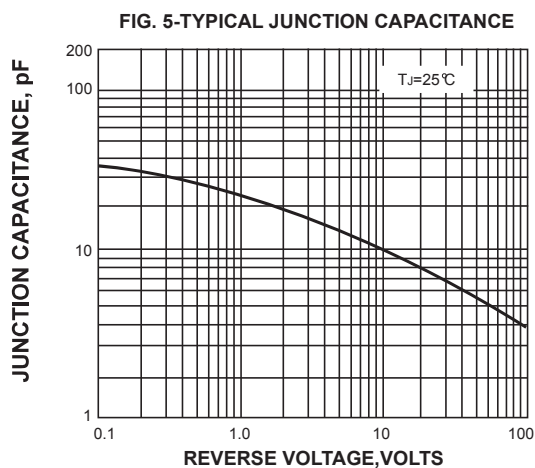
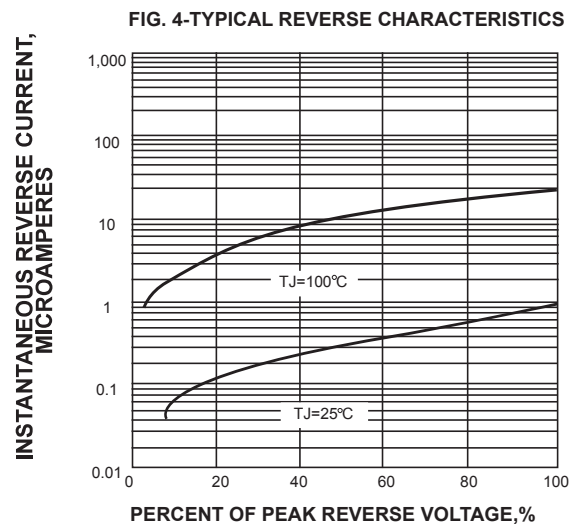
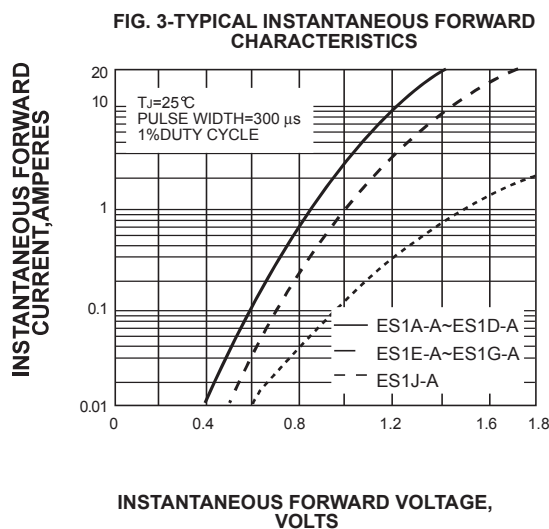
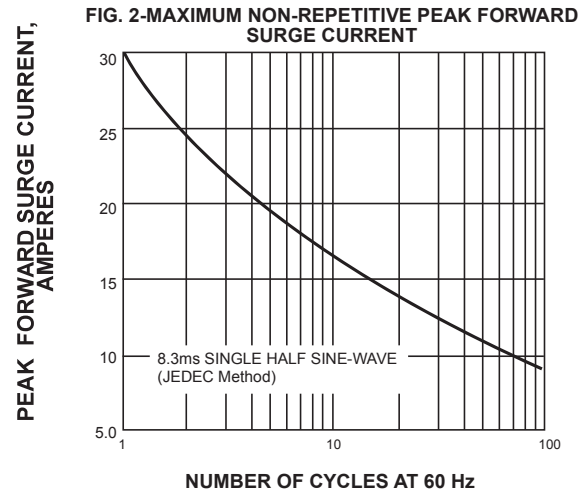
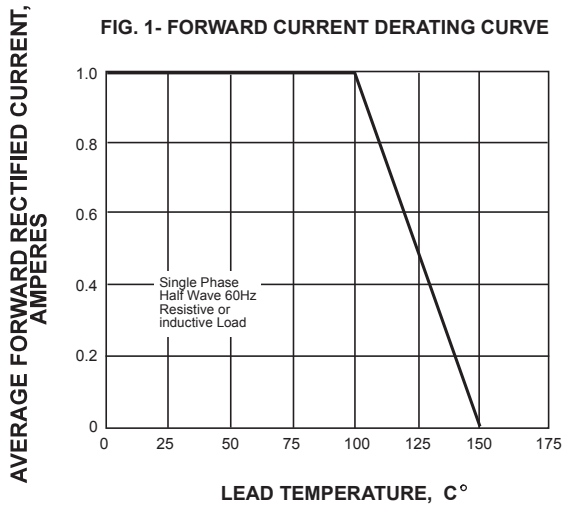
*4 Maximum forward voltage@ $I_F=1.0\text{A}$

*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, $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$

ES1A-A THRU ES1J-A

Rating and characteristic curves

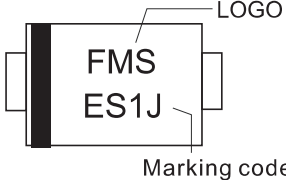
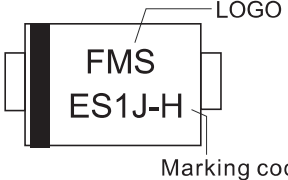


ES1A-A THRU ES1J-A

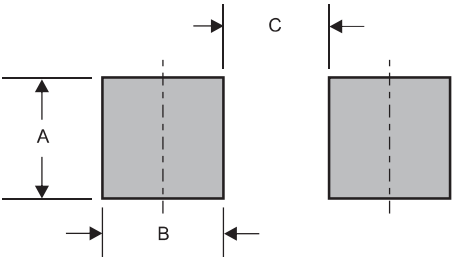
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

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

Suggested solder pad layout



Dimensions in inches and (millimeters)

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