

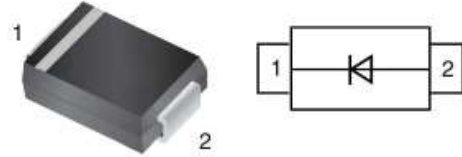


# Super Fast Surface Mount Rectifier in DO-214AC/SMA

## ES1A thru ES1M

### Features

- For surface mounted application
- Glass passivated junction chip
- Built-in strain relief
- ideal for automated placement
- Superfast recovery time for high efficiency



### Mechanical Data

- **Case:** JEDEC DO-214AC(SMA)molded plastic  
Lead free; RoHS compliant ; Halogen free
- **Molding Compound Flammability Rating:**  
UL 94 V-0
- **Terminals:**  
High temperature soldering guaranteed:  
260 °C/10 sec. at terminals

### Maximum Ratings And Electrical Characteristics

Ratings at 25° C ambient temperature unless otherwise specified.  
Single phase half-wave 60Hz resistive or inductive load, for capacitive load current derate by 20%.

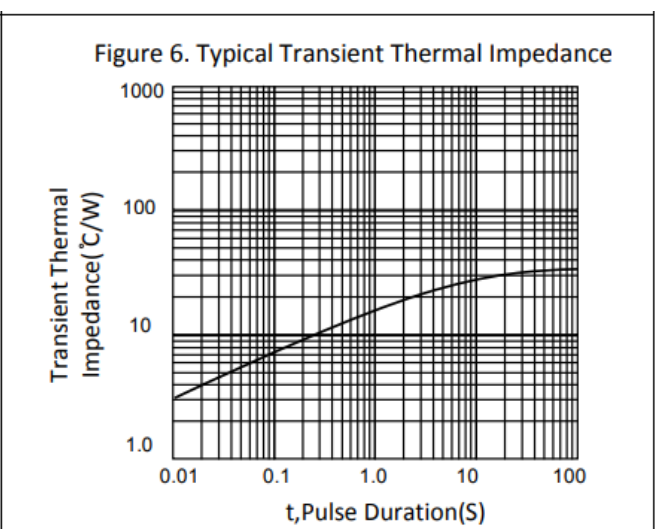
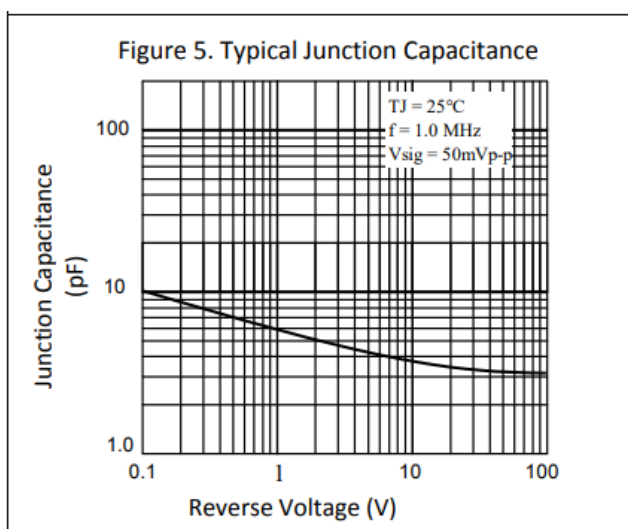
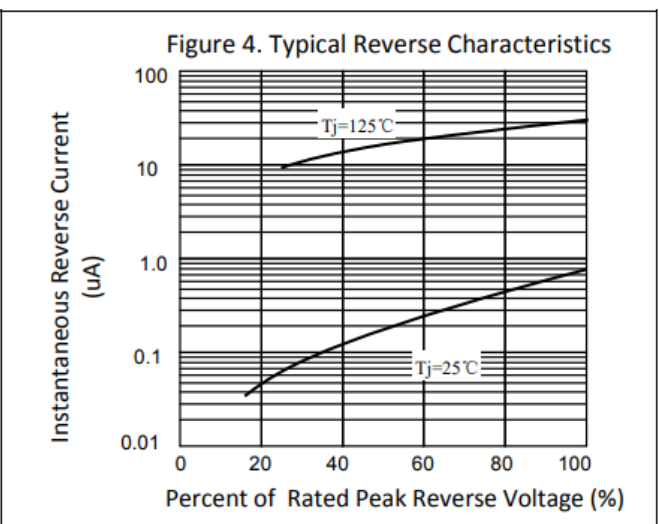
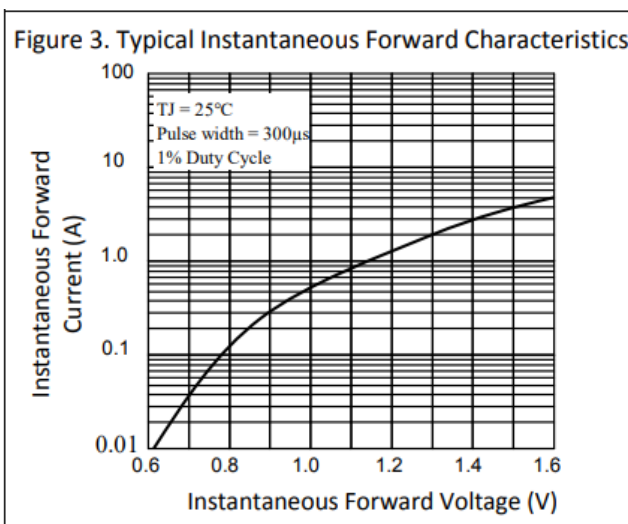
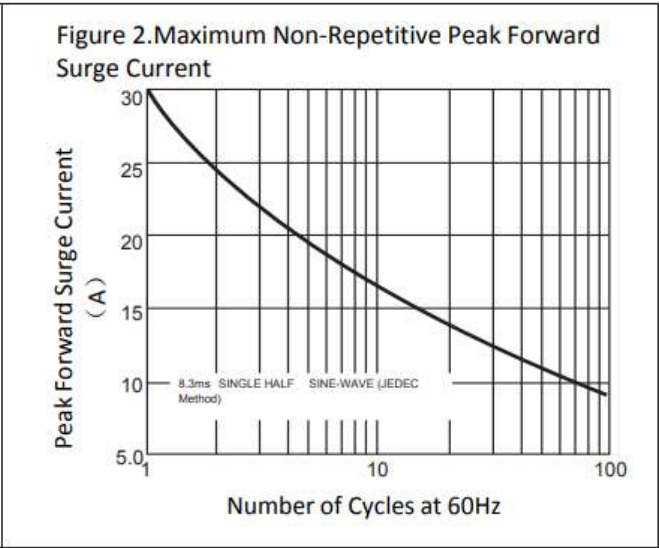
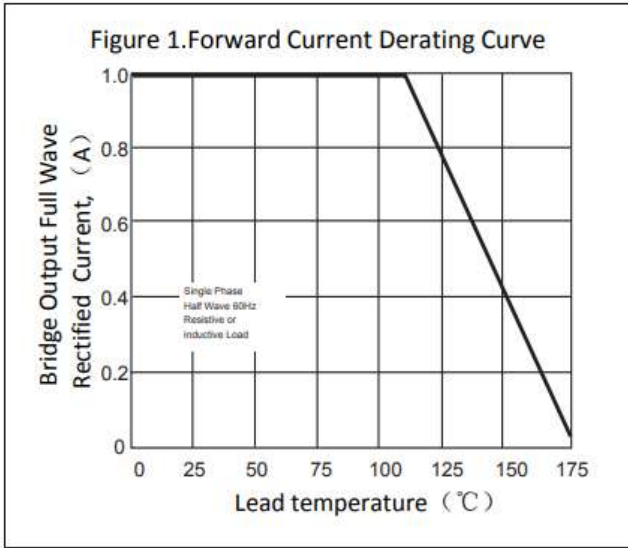
Parameter	Symbols	ES1A	ES1B	ES1D	ES1G	ES1J	ES1K	ES1M	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified current See Fig. 1 @ $T_J=90^{\circ}C$	$I_{AV}$	1.0							Amp
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30.0							Amps
Maximum instantaneous forward voltage @ 1.0A	$V_f$	0.95		1.3		1.7			Volts
Maximum DC reverse current at rated DC blocking voltage	$I_R$	5.0 100							$\mu A$
Maximum reverse recovery time (Note 1)	$t_r$	35							nS
Typical junction capacitance (Note 2)	$C_j$	10							pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	85.0 35.0							$^{\circ}C/W$
Operating temperature range	$T_J$	-55 to +150							$^{\circ}C$
Storage temperature range	$T_{STG}$	-55 to +150							$^{\circ}C$

- Notes:**
1. Reverse Recovery Test Conditions:  $I_R=0.5A$ ,  $I_F=1.0A$ ,  $I_{SM}=0.25A$
  2. Measured at 1 MHz and Applied  $V_R=4.0$  Volts
  3. Thermal Resistance from Junction to Ambient and from Junction to Lead Mounted on P.C.B. with 0.2" x 0.2" ( 5.0 x 5.0 mm ) Copper Pad Areas

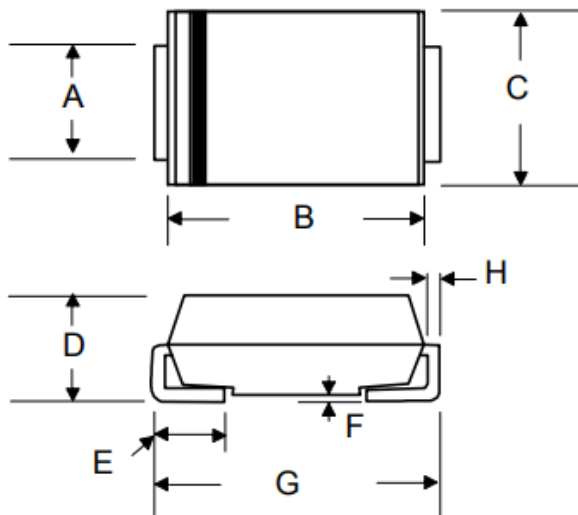


### Typical Characteristics

( $T_{amb} = 25\text{ }^{\circ}\text{C}$  unless otherwise specified)

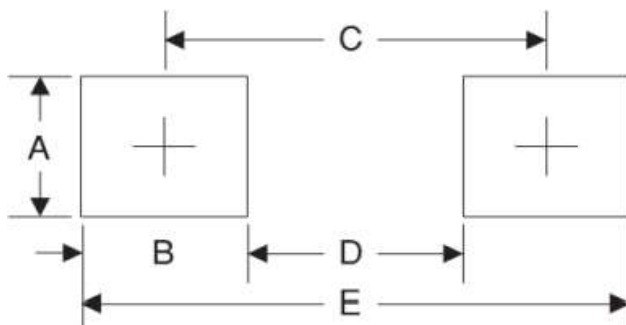


## Package Dimensions



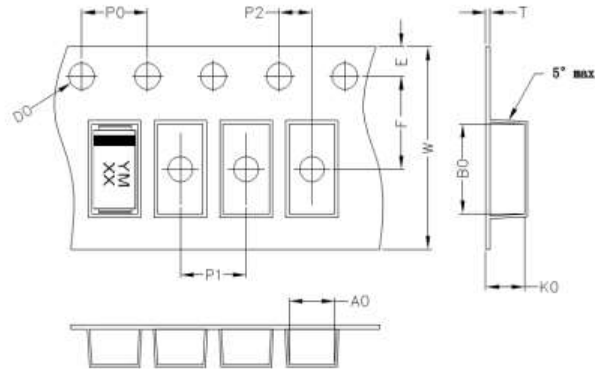
Symbol	Dimensions in millimeters	
	Min	Max
A	1.30	1.70
B	3.90	4.50
C	2.40	2.80
D	2.00	2.50
E	0.76	1.52
F	0.10	0.20
G	4.80	5.30
H	0.15	0.31

## PAD Dimensions



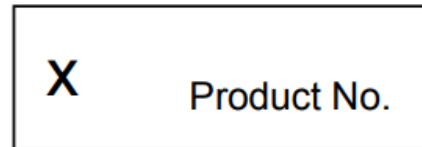
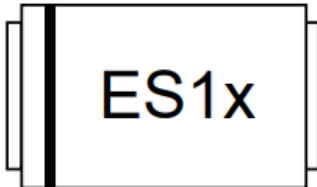
Symbol	Unit (mm)	Unit (inch)
A	1.68	0.066
B	1.52	0.060
C	3.90	0.154
D	2.41	0.095
E	5.45	0.215

### Packing Information



<b>A0</b>	<b>B0</b>	<b>K0</b>	<b>D0</b>	<b>E</b>	<b>F</b>
2.80	5.30	2.36	1.55	1.75	5.50
<b>P0</b>	<b>P1</b>	<b>P2</b>	<b>T</b>	<b>W</b>	<b>Tolerance</b>
4.0	4.0	2.0	0.25	12	0.1

### Marking



### Ordering information

Order code	Package	Packaging option	Base quantity	Packaging specification
ES1A thur ES1M	DO-214AC/SMA	Tape and reel	5000pcs / reel	EIA STD RS-481