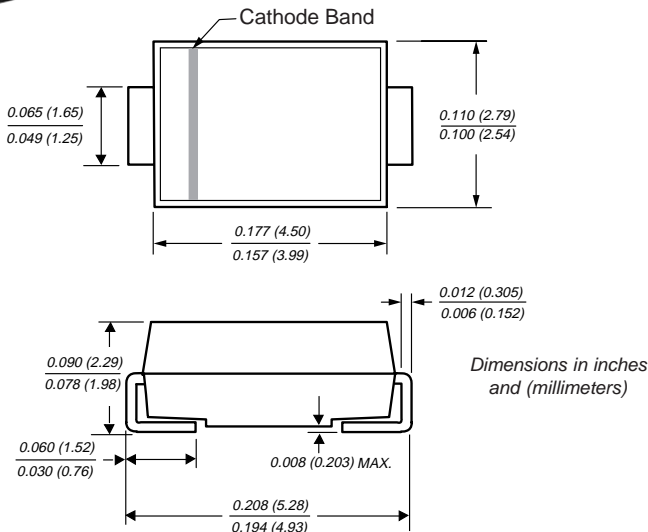




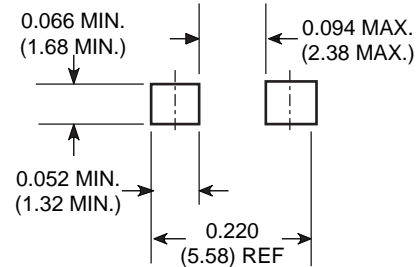
## Surface Mount Ultrafast Plastic Rectifiers

DO-214AC (SMA)

Reverse Voltage 50 to 200 V  
Forward Current 1.0 A  
Reverse Recovery Time 15 ns



### Mounting Pad Layout



### Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- For surface mount applications
- Glass passivated chip junctions
- Low profile package
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Low forward voltage, low power loss
- Built-in strain relief, ideal for automated placement
- High temperature soldering guaranteed: 250°C/10 seconds on terminals

### Mechanical Data

**Case:** JEDEC DO-214AC molded plastic body over passivated chip

**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Weight:** 0.002 oz., 0.064 g

### Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	ES1A	ES1B	ES1C	ES1D	Unit
Device marking code		EA	EB	EC	ED	
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	150	200	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	105	140	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	150	200	V
Maximum average forward rectified current at T <sub>L</sub> = 120°C	I <sub>F(AV)</sub>	1.0				A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	30				A
Typical thermal resistance <sup>(1)</sup>	R <sub>θJA</sub> R <sub>θJL</sub>	85 35				°C/W
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150				°C

### Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Maximum instantaneous forward voltage at 0.6A <sup>(2)</sup> at 1.0A	V <sub>F</sub>	0.865 0.920				V
Maximum DC reverse current at rated DC blocking voltage	I <sub>R</sub>	5.0 100				μA
Max. reverse recovery time I <sub>F</sub> = 0.5A, I <sub>R</sub> = 1.0A, I <sub>rr</sub> = 0.25A	t <sub>rr</sub>	15				ns
Maximum reverse recovery time I <sub>F</sub> = 0.6A, V <sub>R</sub> = 30V, di/dt = 50A/μs, I <sub>rr</sub> = 10% I <sub>RM</sub>	t <sub>rr</sub>	25 35				ns
Maximum stored charge I <sub>F</sub> = 0.6A, V <sub>R</sub> = 30V, di/dt = 50A/μs, I <sub>rr</sub> = 10% I <sub>RM</sub>	Q <sub>rr</sub>	10 25				nC
Typical junction capacitance at 4.0V, 1MHz	C <sub>J</sub>	7.0				pF

**Notes:** (1) Units mounted on P.C.B. 5.0 x 5.0mm (0.013mm thick) land areas

(2) Pulse test: 300μs pulse width, 1% duty cycle

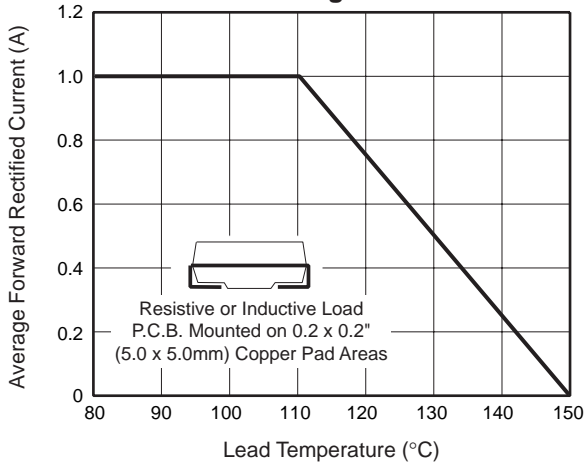
# ES1A thru ES1D

Vishay Semiconductors  
formerly General Semiconductor

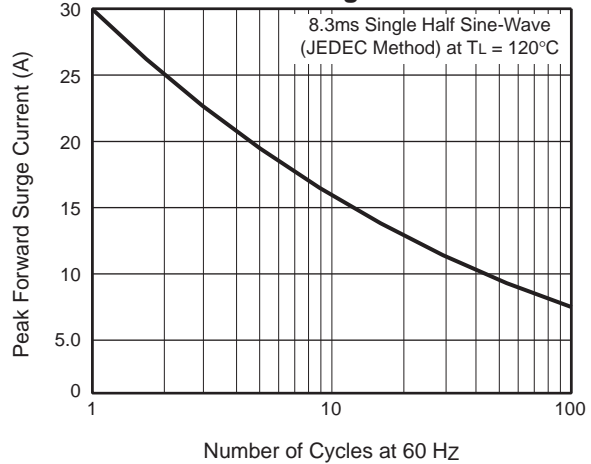


## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

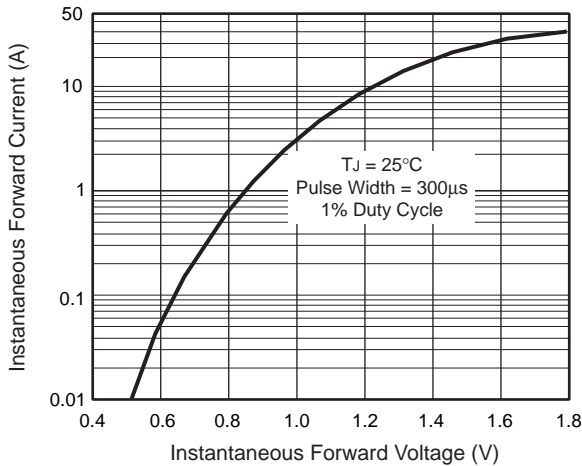
**Fig. 1 – Maximum Forward Current Derating Curve**



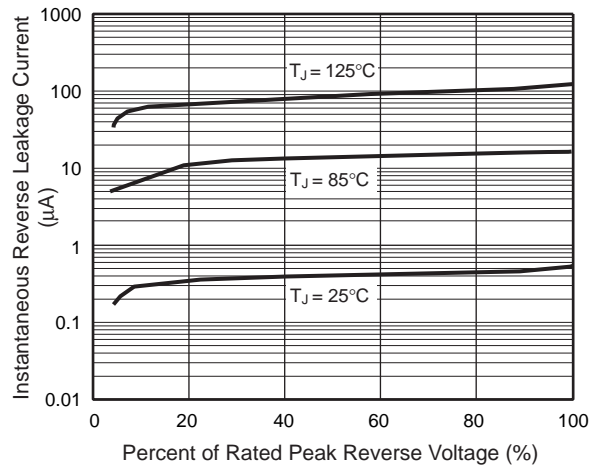
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



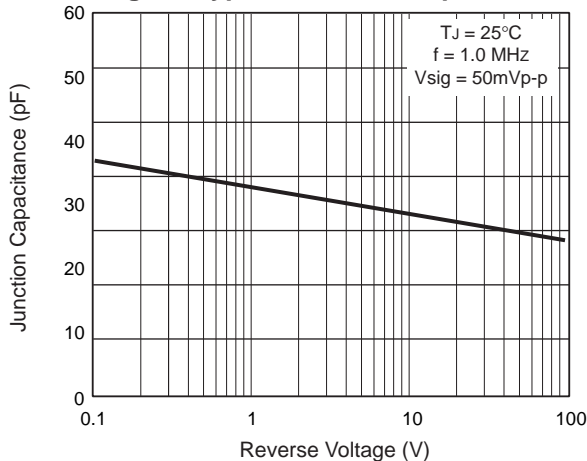
**Fig. 3 – Typical Instantaneous Forward Characteristics**



**Fig. 4 – Typical Reverse Leakage Characteristics**



**Fig. 5 – Typical Junction Capacitance**



**Fig. 6 – Typical Thermal Impedance**

