

# ES2A THRU ES2J

## Surface Mount Superfast Recovery Rectifier

Reverse Voltage – 50 to 600 V

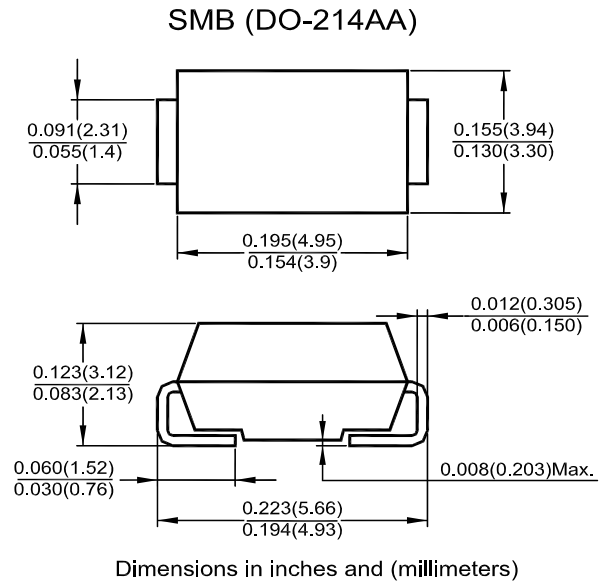
Forward Current – 2 A

### Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High forward surge current capability
- For surface mounted applications
- Low reverse leakage
- Built-in strain relief, ideal for automated placement
- Super fast switching for high efficiency

### Mechanical Data

- **Case:** JEDEC SMB (DO-214AA) molded plastic body
- **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
- **Polarity:** Color band denotes cathode end
- **Mounted Position:** Any



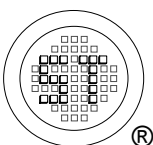
### Absolute Maximum Ratings and Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

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

Parameter	Symbols	ES2A	ES2B	ES2C	ES2D	ES2E	ES2G	ES2J	Units	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	600	V	
Maximum RMS Voltage	$V_{RMS}$	35	70	105	140	210	280	420	V	
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	600	V	
Maximum Average Forward Rectified Current at $T_L = 55^\circ\text{C}$	$I_{F(AV)}$	2							A	
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	50							A	
Maximum Forward Voltage at 2 A	$V_F$	1.1			1.7			V		
Maximum Reverse Current at $T_a = 25^\circ\text{C}$ at Rated DC Blocking Voltage at $T_a = 100^\circ\text{C}$	$I_R$	5				200				$\mu\text{A}$
Typical Junction Capacitance at $V_R = 4\text{ V}$ , $f = 1\text{ MHz}$	$C_j$	62							pF	
Typical Reverse Recovery Time at $I_F = 0.5\text{ A}$ , $I_R = 1\text{ A}$ , $I_{rr} = 0.25\text{ A}$	$t_{rr}$	35							ns	
Typical Thermal Resistance <sup>1)</sup>	$R_{\theta JL}$	40							$^\circ\text{C/W}$	
Operating Junction and Storage Temperature Range	$T_j, T_{stg}$	- 55 to + 150							$^\circ\text{C}$	

<sup>1)</sup> P.C.B. mounted with 0.2 X 0.2" (5.0 X 5.0 mm ) copper pad areas.



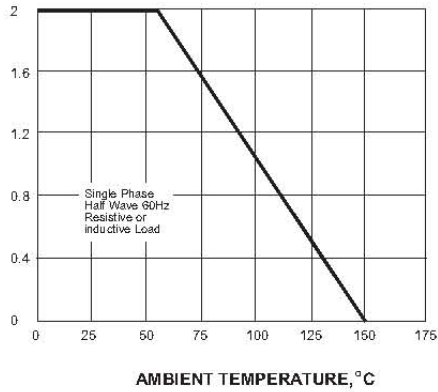
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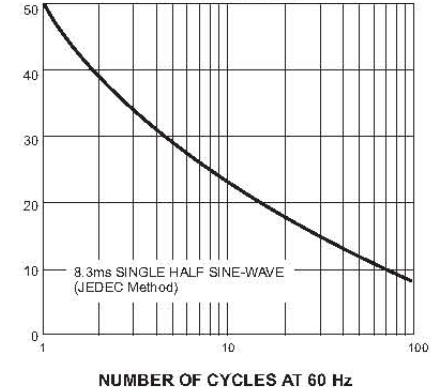
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



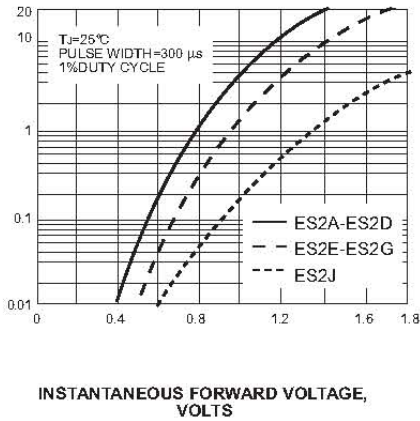
PEAK FORWARD SURGE CURRENT, AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



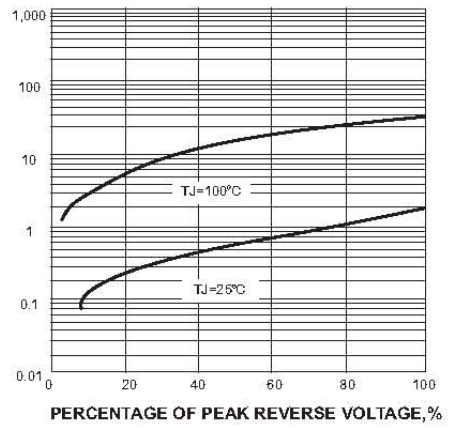
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



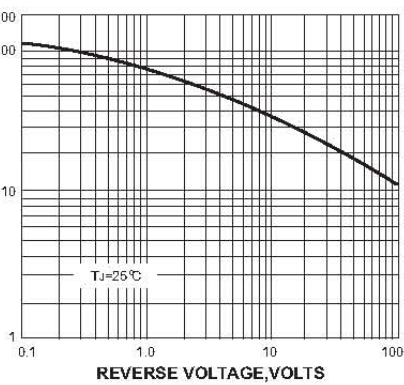
INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



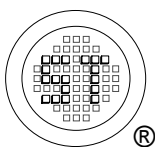
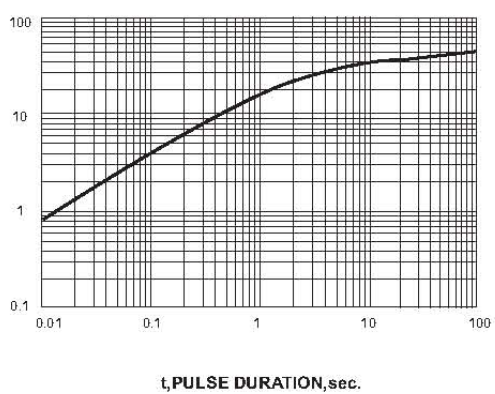
JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



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