

# ES2A - ES2J

## SURFACE MOUNT SUPER FAST RECTIFIERS

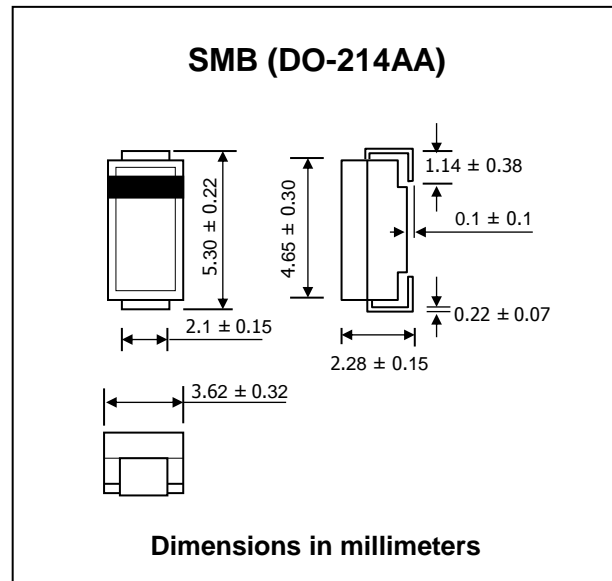
**PRV : 50 - 600 Volts**  
**Io : 2.0 Amperes**

### FEATURES :

- \* High current capability
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Super fast recovery time
- \* Pb / RoHS Free

### MECHANICAL DATA :

- \* Case : SMB Molded plastic
- \* Epoxy : UL94V-0 rate flame retardant
- \* Lead : Lead Formed for Surface Mount
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 0.1079 gram



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

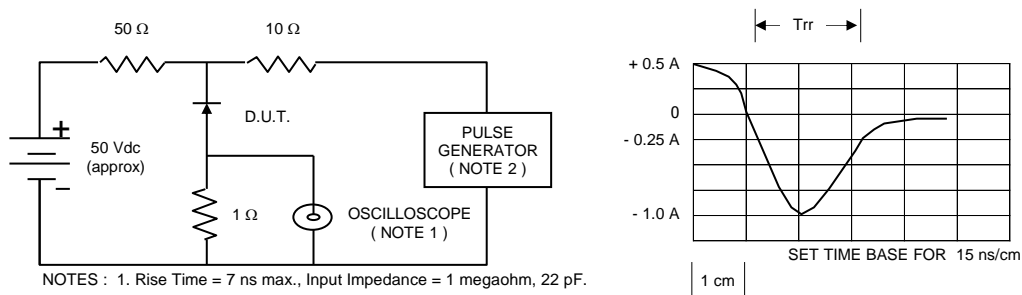
RATING	SYMBOL	ES2A	ES2B	ES2C	ES2D	ES2F	ES2G	ES2J	UNIT
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	150	200	300	400	600	V
Maximum RMS Voltage	VRMS	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	VDC	50	100	150	200	300	400	600	V
Maximum Average Forward Current $T_L = 110^\circ\text{C}$	IF(AV)	2.0							A
Maximum Peak Forward Surge Current 8.3ms Single half sine wave Superimposed on rated load (JEDEC Method)	IFSM	50							A
Maximum Peak Forward Voltage at IF = 2.0 A.	VF	0.90			1.25		1.7		V
Maximum DC Reverse Current at Rated DC Blocking Voltage	IR	5.0 (Ta = 25°C) 350 (Ta = 100°C)							μA
Maximum Reverse Recovery Time ( Note 1 )	Trr	35							ns
Typical Thermal Resistance, Junction to Ambient	RθJA	75							°C/W
Total Capacitance ( Note 2 )	CT	18							pf
Junction Temperature Range	TJ	- 65 to + 150							°C
Storage Temperature Range	TSTG	- 65 to + 150							°C

### Notes :

- ( 1 ) Reverse Recovery Test Conditions : IF = 0.5 A, IR = 1.0 A, Irr = 0.25 A.
- ( 2 ) Measured at 1.0 MHz and applied reverse voltage of 4.0 Vdc

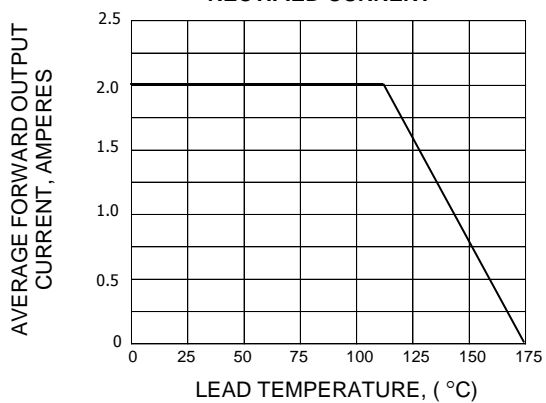
## RATING AND CHARACTERISTIC CURVES ( ES2A - ES2J )

**FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**

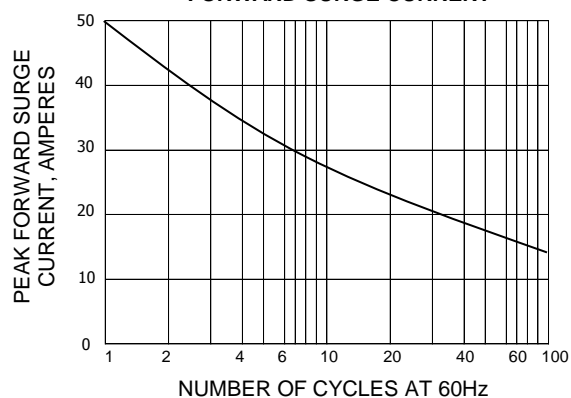


NOTES : 1. Rise Time = 7 ns max., Input Impedance = 1 megaohm, 22 pF.  
 2. Rise time = 10 ns max., Source Impedance = 50 ohms.  
 3. All Resistors = Non-inductive Types.

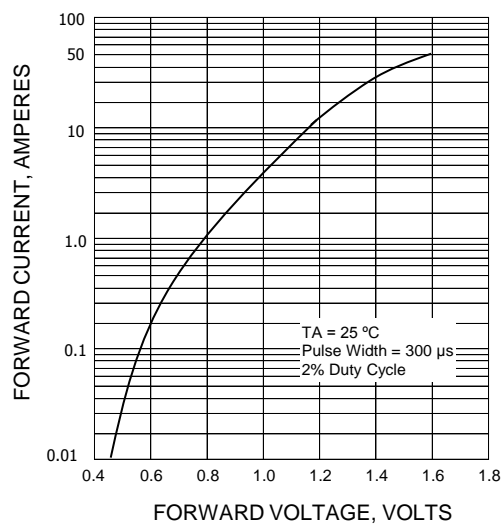
**FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



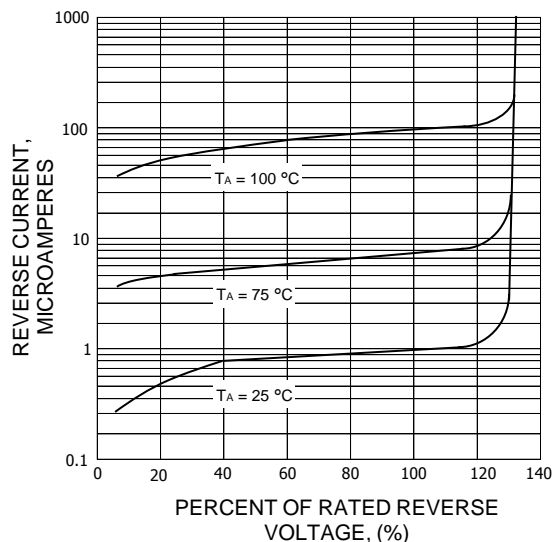
**FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG.4 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.5 - TYPICAL REVERSE CHARACTERISTICS**



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