

ES3A - ES3M

PRV : 50 - 1000 Volts

Io : 3.0 Amperes

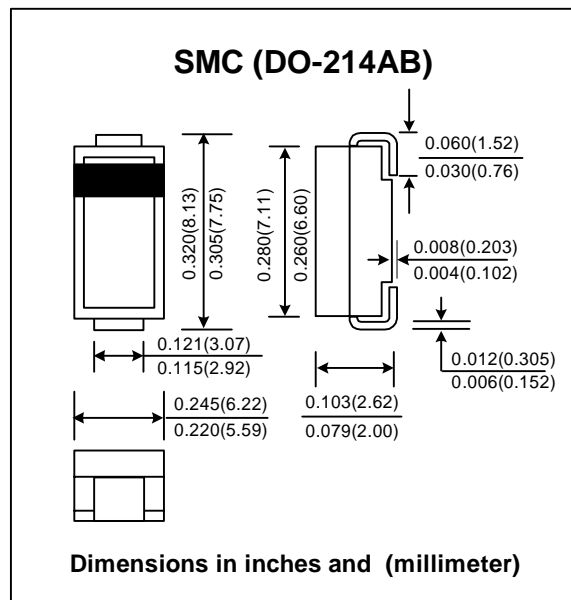
FEATURES :

- * 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 : SMC Molded plastic
- * Epoxy : UL94V-O rate flame retardant
- * Lead : Lead Formed for Surface Mount
- * Mounting position : Any
- * Weight : 0.21 gram

SURFACE MOUNT SUPER FAST RECTIFIERS



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specific.

Single phase, half wave, 60 Hz, resistive or inductive load

For capacitive load, derate current by 20%

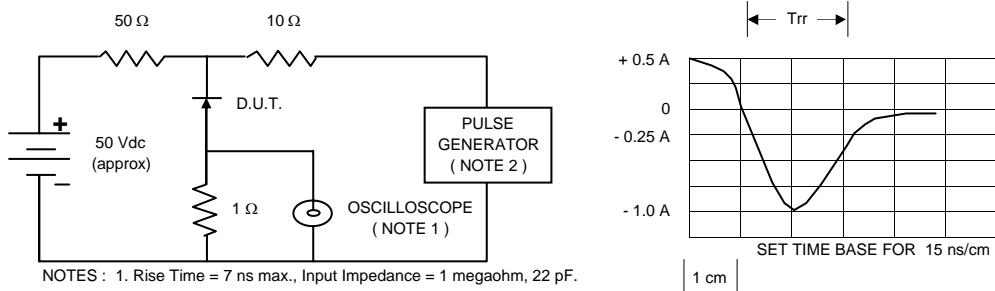
RATING	SYMBOL	ES3A	ES3B	ES3C	ES3D	ES3E	ES3G	ES3J	ES3K	ES3M	UNIT	
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	150	200	300	400	600	800	1000	V	
Maximum RMS Voltage	V _{RMS}	35	70	105	140	210	280	420	560	700	V	
Maximum DC Blocking Voltage	V _{DC}	50	100	150	200	300	400	600	800	1000	V	
Maximum Average Forward Current	I _{F(AV)}	3.0									A	
Maximum Peak Forward Surge Current, 8.3ms Single half sine wave Superimposed on rated load (JEDEC Method)	I _{FSM}	100									A	
Maximum Peak Forward Voltage at I _F = 3.0 A.	V _F	0.95			1.3			1.7			V	
Maximum DC Reverse Current Ta = 25 °C at Rated DC Blocking Voltage Ta = 100 °C	I _R	10									μA	
	I _{R(H)}	500										
Maximum Reverse Recovery Time (Note 1)	T _{rr}	35									ns	
Typical Junction Capacitance (Note 2)	C _J	50				40						pf
Junction Temperature Range	T _J	- 55 to + 150									°C	
Storage Temperature Range	T _{STG}	- 55 to + 150									°C	

Notes :

- (1) Reverse Recovery Test Conditions : I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A.
- (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 V_{dc}

RATING AND CHARACTERISTIC CURVES (ES3A - ES3M)

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

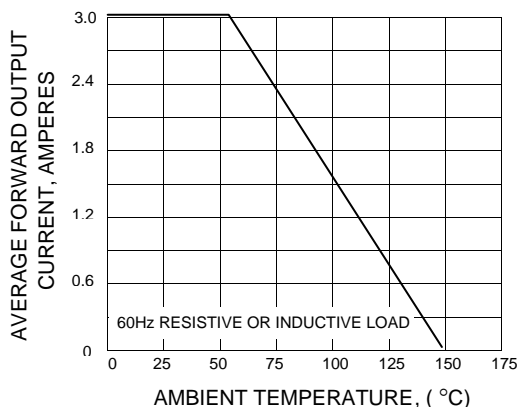


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

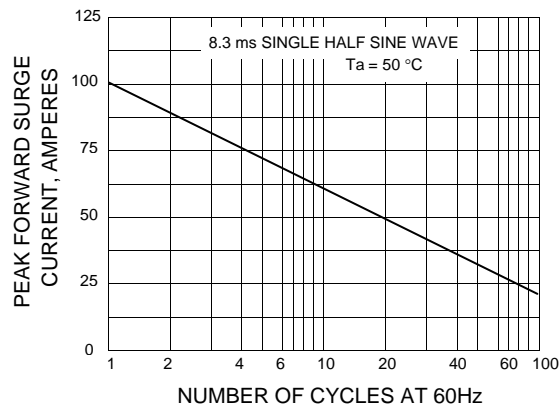


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

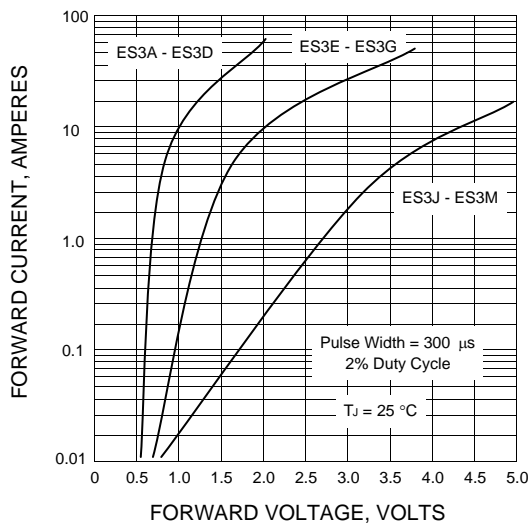


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

