

ES3A THRU ES3M

SURFACE MOUNT SUPER FAST RECTIFIERS

Reverse Voltage - 50 to 1000 V
Forward Current - 3 A

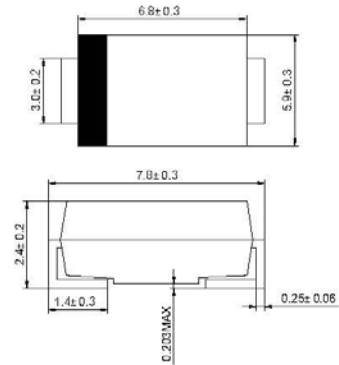
Features

- High current capability
- High surge current capability
- High reliability
- Low reverse current
- Low forward voltage drop
- Super fast recovery time

Mechanical Data

- Case: DO-214AB (SMC) molded plastic body
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Lead formed for surface mount
- Mounting Position: Any

DO-214AB(SMC)



Dimensions in millimeters

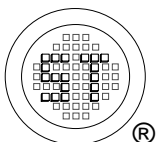
Maximum Ratings and Electrical Characteristics

Ratings 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%.

Parameter	Symbols	ES3A	ES3B	ES3C	ES3D	ES3F	ES3G	ES3J	ES3K	ES3M	Units	
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									A	
Peak Peak Forward Surge Current, 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	100									A	
Maximum Forward Voltage at $I_F = 3$ A	V_F	0.95			1.3			1.7			V	
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	$T_A = 25^\circ\text{C}$ 10					$T_A = 100^\circ\text{C}$ 500					μA
Maximum Reverse Recovery Time ¹⁾	t_{rr}	35									ns	
Typical Junction Capacitance ²⁾	C_J	50				40						pF
Junction Temperature Range	T_j	- 55 to + 150									°C	
Storage temperature range	T_{Sg}	- 55 to + 150									°C	

¹⁾ Reverse recovery test conditions: $I_F = 0.5$ A, $I_R = 1$ A, $I_{rr} = 0.25$ A

²⁾ Measured at 1 MHz and applied reverse voltage of 4 V D.C.



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

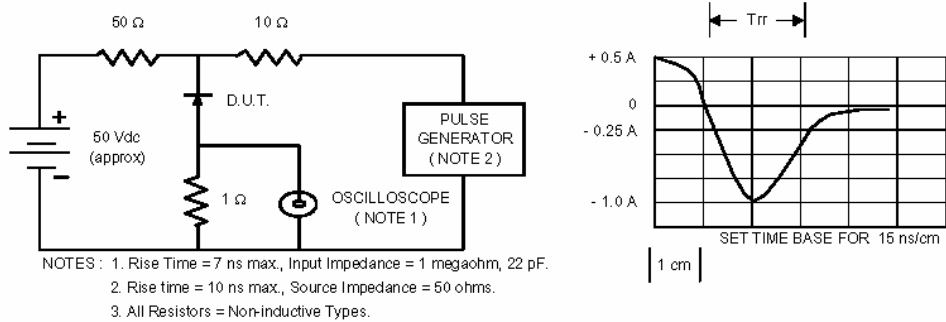


FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

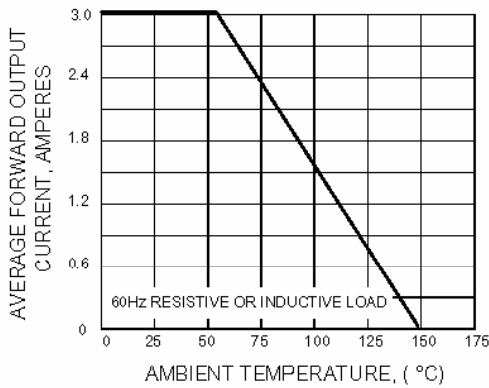


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

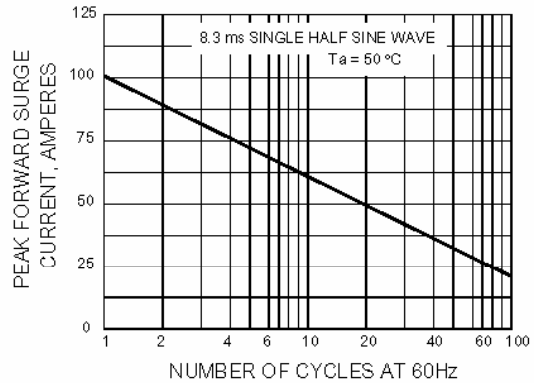


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

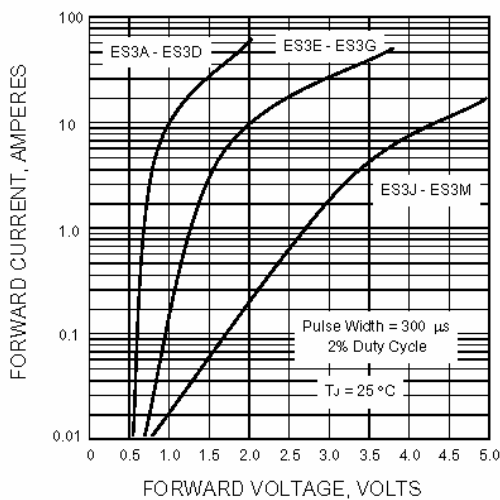
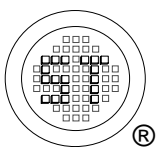
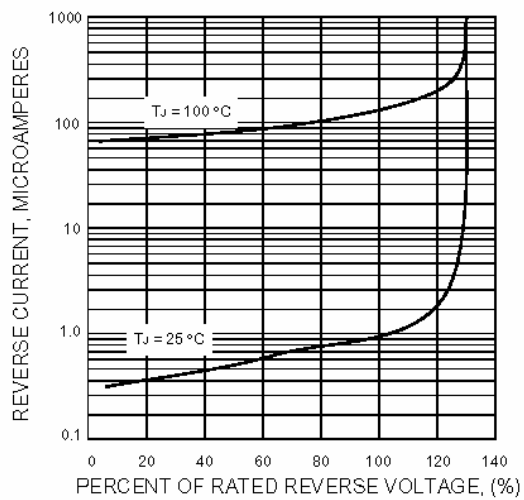


FIG.5 - TYPICAL REVERSE CHARACTERISTICS



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