

## Surface Mount Superfast Rectifiers

### Features

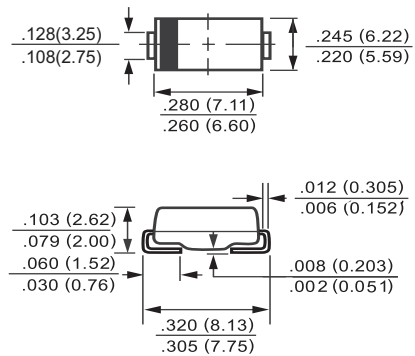
- Super fast switching time for high efficiency
- Low forward voltage drop and high current capability
- Low reverse leakage current
- Plastic material has UL flammability classification 94V-0

### 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



SMC (DO-214AB)



Dimensions in inches and (millimeters)

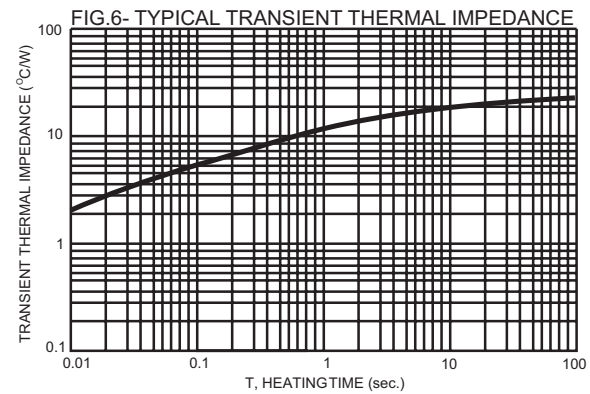
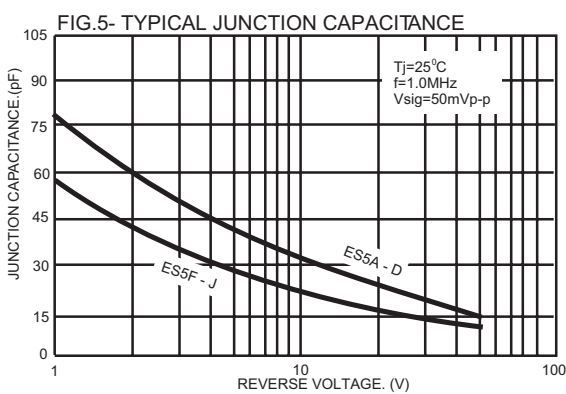
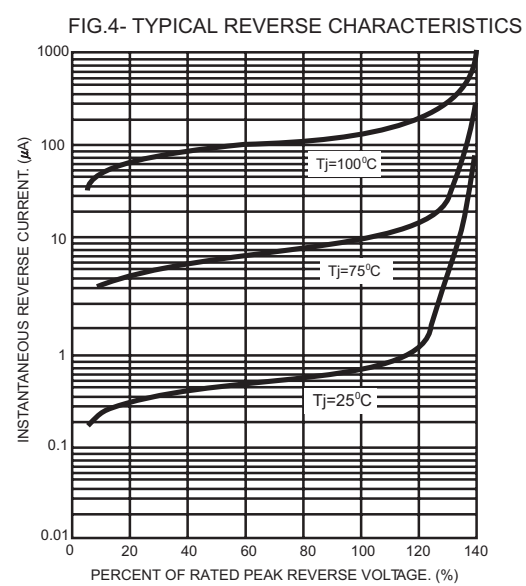
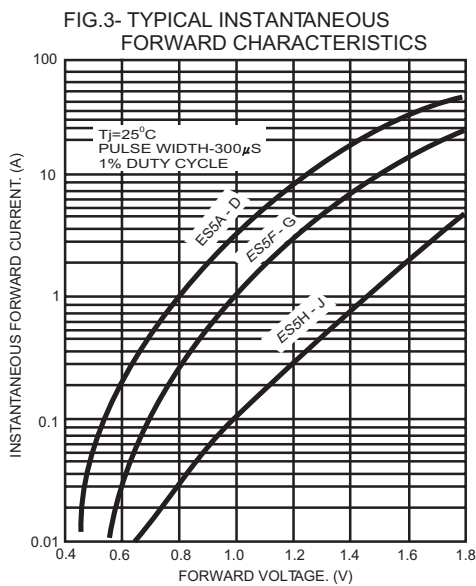
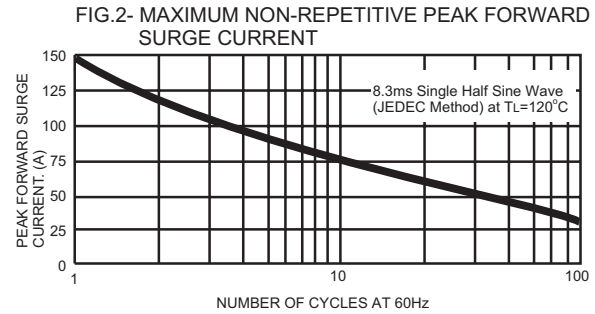
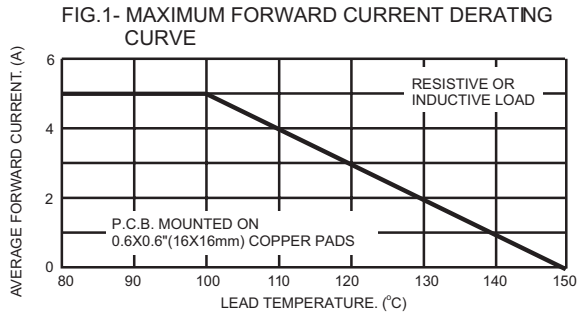
**Maximum Ratings and Electrical Characteristics** Rating at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%

Type Number	Symbol	ES 5A	ES 5B	ES 5C	ES 5D	ES 5F	ES 5G	ES 5H	ES 5J	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	500	600	V
Maximum RMS Voltage	$V_{RMS}$	35	70	105	140	210	280	350	420	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	500	600	V
Maximum Average Forward Rectified Current See Fig. 1	$I_{(AV)}$	5.0								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) @ $T_J = 100^\circ\text{C}$	$I_{FSM}$	150								A
Maximum Instantaneous Forward Voltage @ 5.0A	$V_F$	0.95			1.3		1.7			V
Maximum DC Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$	$I_R$					10				uA
						500				uA
Maximum Reverse Recovery Time ( Note 1 )	$T_{rr}$					35				nS
Typical Junction Capacitance ( Note 2 )	$C_j$	45			30					pF
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$					47				°C /W
	$R_{\theta JL}$					12				
Operating Temperature Range	$T_J$	-55 to +150								°C
Storage Temperature Range	$T_{STG}$	-55 to +150								°C

- Notes:
1. Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$
  2. Measured at 1 MHz and Applied  $V_R=4.0$  Volts
  3. Units Mounted on P.C.B. with 0.6" x 0.6"(16mm x 16mm) Copper Pad Areas

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



**FIG.7- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**

