

December 2006

ES3A - ES3J

Fast Rectifiers

Features

- For surface mount applications.
- · Glass passivated junction.
- · Low profile package.
- · Easy pick and place.
- · Built-in strain relief.
- Superfast recovery times for high efficiency.



SMC/DO-214AB Color Band Denotes Cathode

Absolute Maximum Ratings * Ta = 25°C unless otherwise noted

Symbol	Parameter	Value				l Inito	
		ES3A	ES3B	ES3C	ES3D	ES3J	Units
V _{RRM}	Maximum Repetitive Reverse Voltage	50	100	150	200	600	V
I _{F(AV)}	Average Rectified Forward Current, .375" lead length @ T _A =75°C	3.0			А		
I _{FSM}	Non-repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave	100		А			
T _{J,} T _{STG}	Operating Junction and Storage Temperature Range	-50 to +150		°C			
P _D	Power Dissipation	1.66		W			

^{*} These ratings are limiting values above which the serviceability of any semiconductor device may by impaired.

Thermal Characteristics

Symbol	Parameter	Value	Units
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient *	47	°C/W
$R_{\theta JL}$	Thermal Resistance, Junction to Lead *	12	°C/W

^{*} Device mounted on FR-4 PCB 0.013 mm.

Electrical Characteristics T_C = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V _F	Forward Voltage @ I _F = 3.0 A	0.95 1.7	V
T _{rr}	Reverse Recovery Time IF = 0.5 A, IR = 1.0 A, IRR = 0.25 A	20 35	ns
I _R	Reverse Current @ rated V_R $T_A = 25^{\circ}C$ $T_A = 100^{\circ}$		uA
C _T	Total Capacitance $V_R = 4.0 \text{ V}, f = 1.0 \text{ MHz}$	45	pF

Typical Performance Characteristics

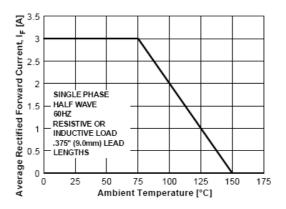


Figure 1. Foward Current Deration Curve

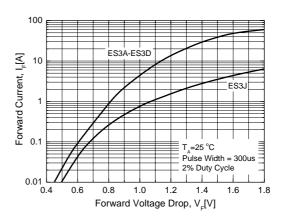


Figure 2. Foward Voltage Characteristics

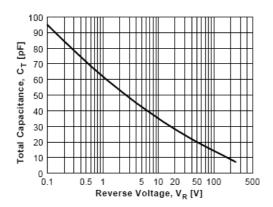


Figure 3. Total Capacitance

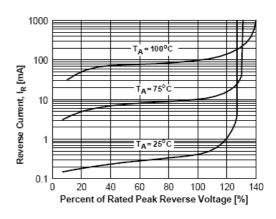
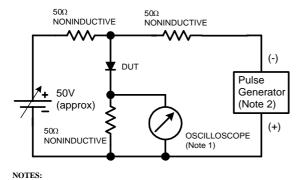
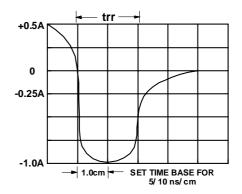


Figure 4. Reverse Current vs Reverse Voltage

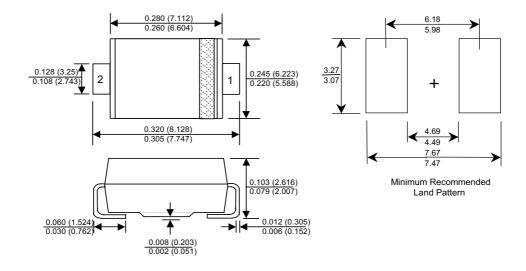


- 1. Rise time = 7.0 ns max; Input impedance = 1.0 megaohm 22 pf.
- 2. Rise time = 10 ns max; Source impedance = 50 ohms.



Package Dimensions

SMC / DO - 214AB



Dimensions in Inches(Millimeters)

UniFET™

 VCX^{TM}

Wire™



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