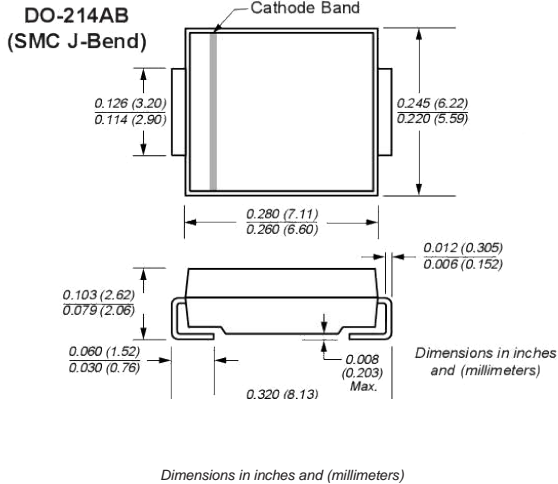


ES5A THRU ES5J

SURFACE MOUNT SUPER FAST RECTIFIER

Reverse Voltage - 50 to 600 Volts Forward Current - 5.0 Amperes

SMC/DO-214AB



FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Low reverse leakage
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 250°C/10 seconds at terminals
- ◆ Glass passivated chip junction

MECHANICAL DATA

Case : JEDEC DO-214AA molded plastic body over passivated chip

Terminals : Solder plated, solderable per MIL-STD-750, Method 2026

Polarity : Color band denotes cathode end

Mounting Position : Any

Weight : 0.003 ounce, 0.093 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

MDD Catalog Number	SYMBOLS	ES5A	ES5B	ES5C	ES5D	ES5E	ES5G	ES5J	UNITS	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	600	VOLTS	
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	420	VOLTS	
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	600	VOLTS	
Maximum average forward rectified current at $T_L=75^\circ\text{C}$	$I_{(AV)}$	5.0							Amps	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150				135			Amps	
Maximum instantaneous forward voltage at 5.0A	V_F	1.0				1.25	1.7		Volts	
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	I_R	10.0				100.0				μA
Maximum reverse recovery time (NOTE 1)	t_{rr}	35				ns				
Typical junction capacitance (NOTE 2)	C_J	95.0				pF				
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	45.0				$^\circ\text{C/W}$				
Operating junction and storage temperature range	T_J, T_{STG}	-50 to +150				$^\circ\text{C}$				

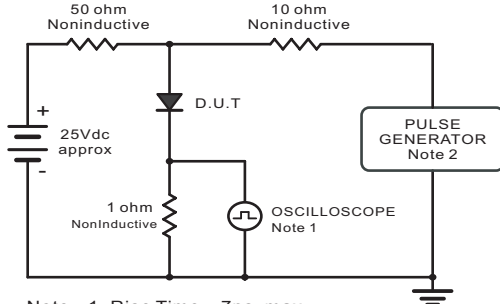
Note: 1. Reverse recovery condition $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{rr}=0.25\text{A}$

2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

3. P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas

RATINGS AND CHARACTERISTIC CURVES ES5A THRU ES5J

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



Note: 1. Rise Time = 7ns, max.
Input Impedance = 1megohm, 22pF.
2. Rise Time = 10ns, max.
Source Impedance = 50 ohms.

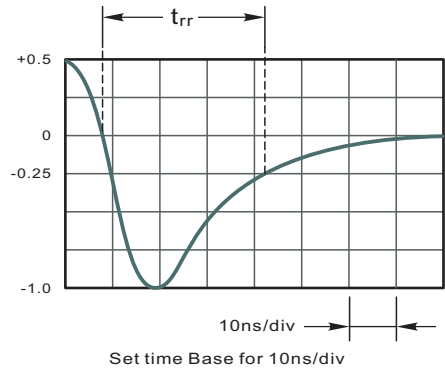


Fig.2 Maximum Average Forward Current Rating

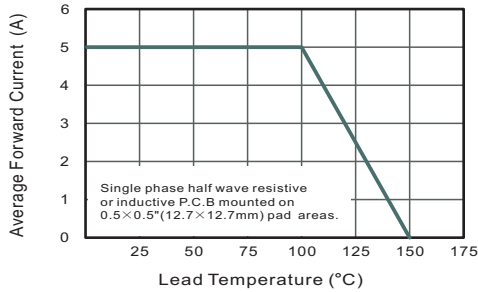


Fig.3 Typical Reverse Characteristics

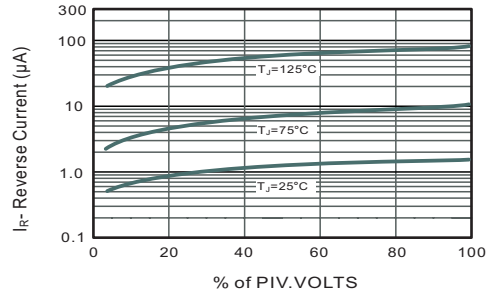


Fig.4 Typical Forward Characteristics

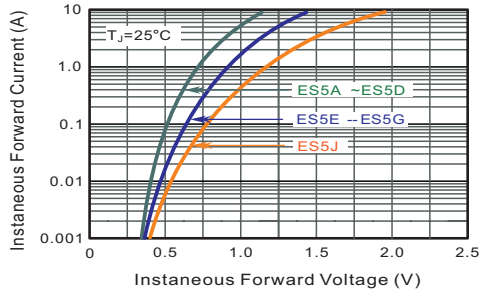


Fig.5 Typical Junction Capacitance

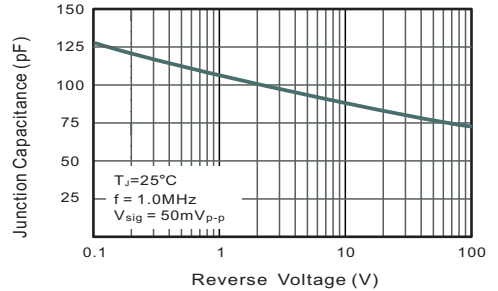
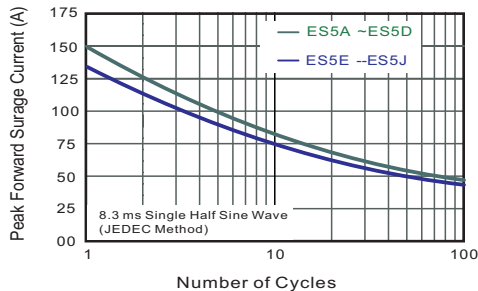


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



The cruve graph is for reference only, can't be the basis for judgment(曲线图仅供参考!)