



# ES5AC THRU ES5JC

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

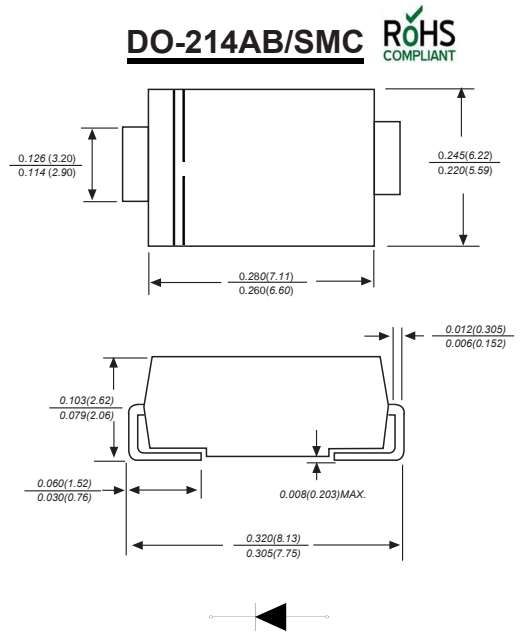
## SURFACE MOUNT SUPER FAST RECOVERY RECTIFIER

### 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-214AB/SMC Molded plastic body  
**Terminals** : Solder plated, solderable per MIL-STD-750, Method 2026  
**Polarity** : Polarity symbol marking on body  
**Mounting Position** : Any  
**Weight** : 0.007 ounce, 0.25 grams



Dimensions in inches and (millimeters)

### 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%.

Parameter	SYMBOLS	ES5AC	ES5BC	ES5CC	ES5DC	ES5EC	ES5GC	ES5JC	UNITS
		MDD ES5AC	MDD ES5BC	MDD ES5CC	MDD ES5DC	MDD ES5EC	MDD ES5GC	MDD ES5JC	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	600	V
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	420	V
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	600	V
Maximum average forward rectified current at $T_L=55^\circ\text{C}$	$I_{(AV)}$	5.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	150				135			A
Maximum instantaneous forward voltage at 5.0A	$V_F$	1				1.25		1.70	V
Maximum DC reverse current at rated DC blocking voltage	$I_R$					10.0 100.0			$\mu\text{A}$
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			$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	$T_J, T_{STG}$					- 5 0 t o + 1 5 0			$^\circ\text{C}$

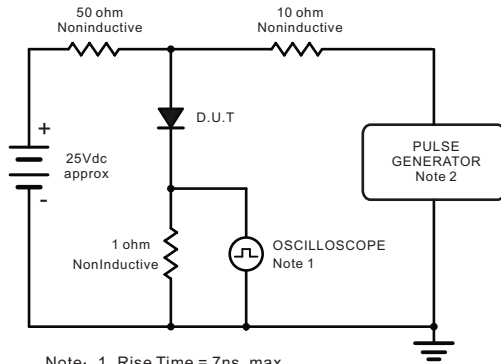
**Note:** 1. Reverse recovery condition  $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$   
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 3. P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas



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## Ratings And Characteristic Curves



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

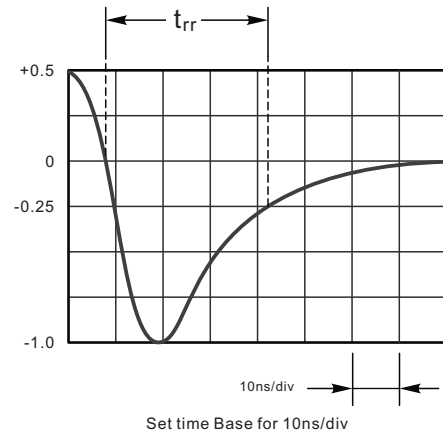


Fig.2 Maximum Average Forward Current Rating

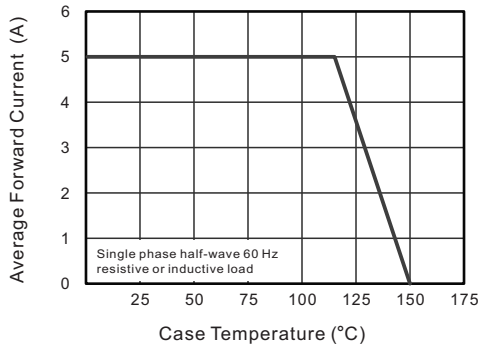


Fig.3 Typical Reverse Characteristics

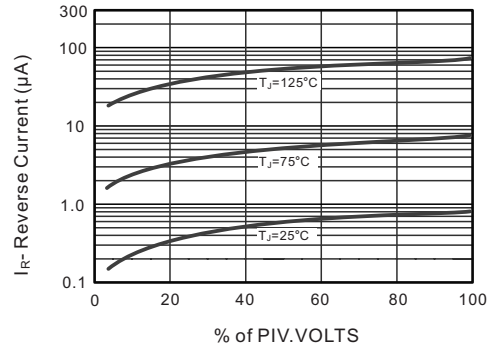


Fig.4 Typical Forward Characteristics

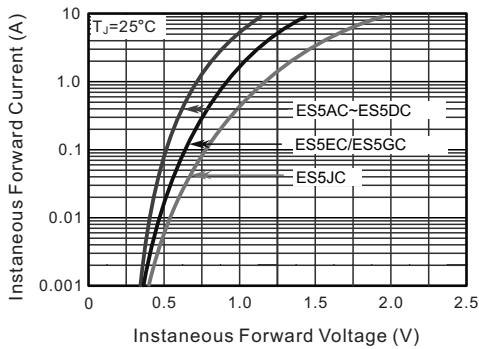
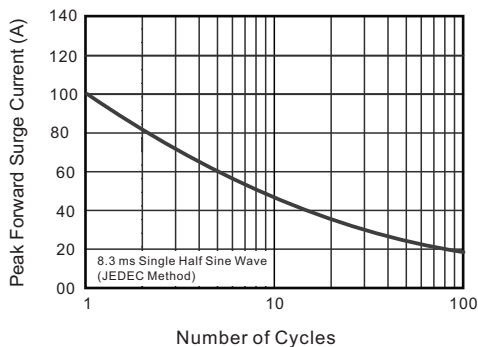


Fig.5 Typical Junction Capacitance

Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



The curve above is for reference only.



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## Packing information



unit:mm

Item	Symbol	Tolerance	SMC
Carrier width	A	0.1	6.15
Carrier length	B	0.1	8.41
Carrier depth	C	0.1	2.42
Sprocket hole	d	0.05	1.50
13" Reel outside diameter	D	2.0	330.00
13" Reel inner diameter	D1	min	50.00
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	7.50
Punch hole pitch	P	0.1	8.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	16.00
Reel width	W1	1.0	16.50

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

## Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (mm)	BOX (pcs)	INNER BOX (mm)	REEL DIA, (mm)	CARTON SIZE (mm)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SMC	13"	3,000	4.0	6000	190*190*41	330	365*365*340	42000	14.0

## Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	4.3	0.170
B	4.1	0.160
C	7.9	0.311
D	3.8	0.150
E	12	0.472

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