

ES5A THRU ES5M

SUPER FAST RECOVERY RECTIFIERS



VOLTAGE 50~1000 Volts

CURRENT 5.0 Amper

Marking and single size

FEATURES

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Super fast switching for high efficiency
- Low reverse leakage
- Built-in strain relief, ideal for automated placement
- High forward surge current capability
- High temperature soldering guaranteed: 260 C/10 seconds at terminals

MECHANICAL DATA

- **Case:** JEDEC DO-214AA molded plastic body
- **Terminals**
Method 2026: Solder plated, solderable per MIL-STD-750,
- **Polarity:** Color band denotes cathode end
- **Mounting Position:** Any
- **Weight:** 0.005ounce, 0.138 grams

TYPICAL APPLICATIONS

- For use in low voltage ,high frequency inverters ,DC/DC converters,LED driver, free wheeling ,and polarity protection applications

DO-214AA(SMB)



Maximum Ratings and Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified)

Parameter	Symbol	ES5A	ES5B	ES5D	ES5G	ES5J	ES5K	ES5M	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current(see fig.1)	$I_{F(AV)}$	5							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I_{FSM}	125					110		A
Maximum instantaneous forward voltage at 5.0 A (Note 1)	V_F	1.3			1.7		3.2		V
Maximum instantaneous reverse current at rated DC blocking voltage (Note 2)	I_{RRM}	5					100		uA
Maximum Reverse Recovery Time (Note 3)	T_{RR}	35							nS
Typical junction capacitance (Note 4)	C_J	90							pF
Operating junction and Storage temperature range	T_J	-55 to +150							°C
Storage temperature range	T_{STG}	-55 to +150							

Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified)

Parameter	Symbol	RS2A THRU RS2M	Unit
Typical thermal resistance (Note 5)	$R_{\theta JA}$	105	°C/W

Note: 1.Pulse test: 300 μs pulse width, 1% duty cycle

2.Pulse test: pulse width ≤ 40ms

3. Reverse Recovery Time test condition: $I_F=0.5A$, $I_R=1.0A$, $I_{RR}=0.25A$

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

5. Thermal resistance from junction to lead vertical P.C.B. mounted , 0.375"(9.5mm) lead length

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RATING AND CHARACTERISTIC CURVES

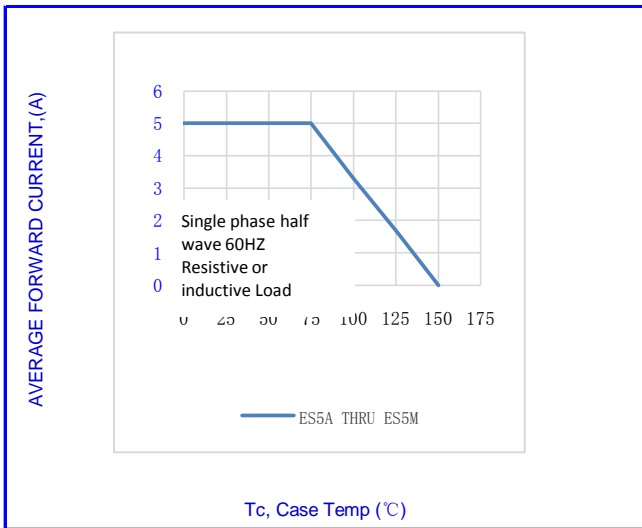


Fig. 1-FORWARD CURRENT DERATING CURVE

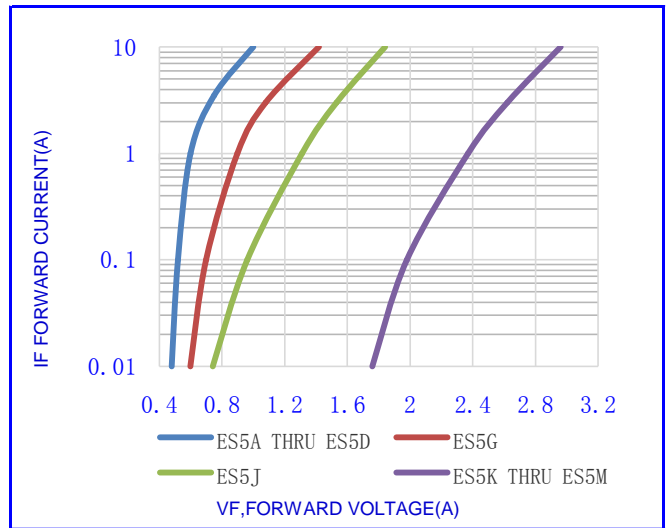


Fig. 2-TYPEICAL FORWARD CHARACTERISTICS

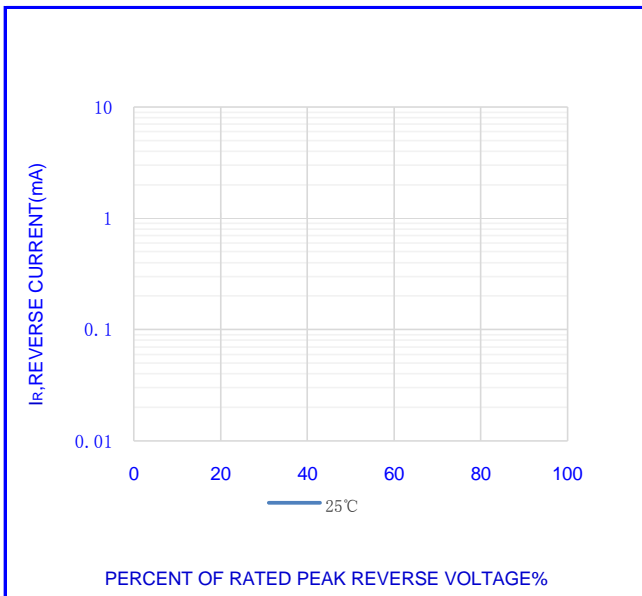


Fig. 3- TYPICAL REVERSE CHARACTERISTICS

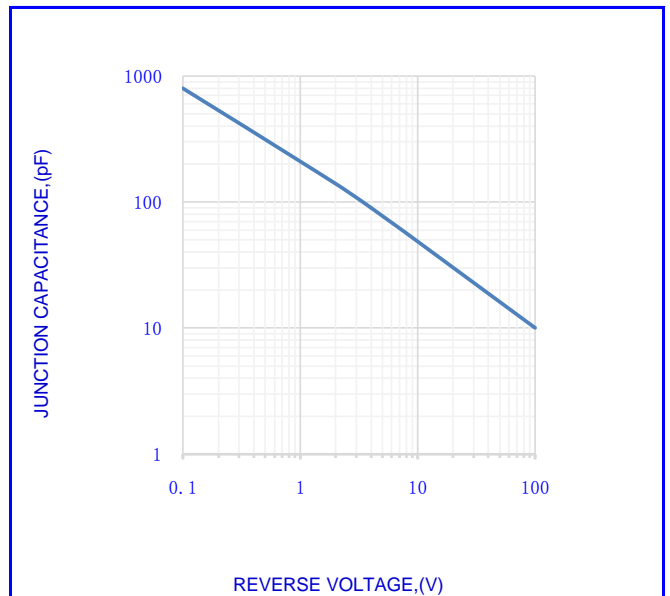


Fig. 4- TYPICAL JUNCTION CAPACITANCE

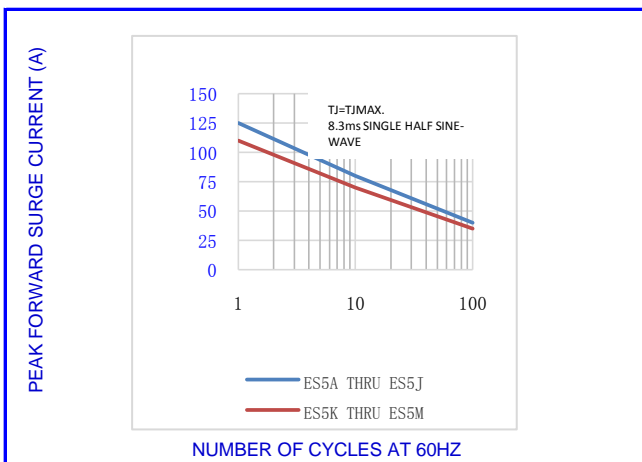


Fig. 5-MAX. NON-REPETITIVE SURGE CURRENT

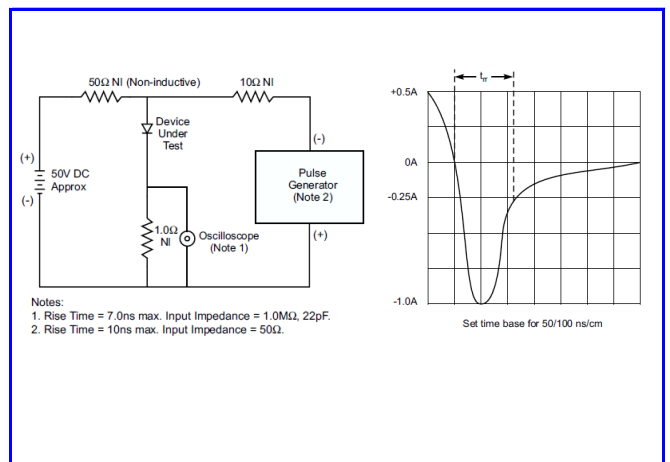
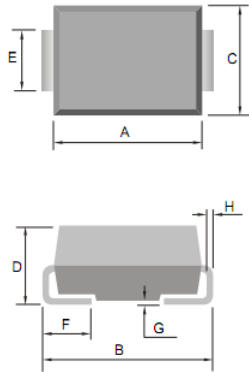


Fig. 6-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT

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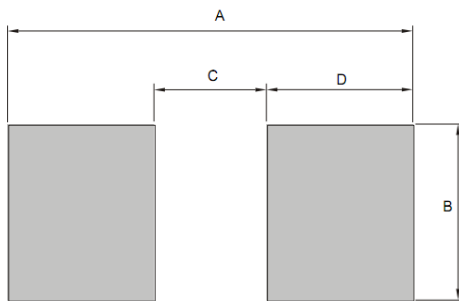
OUTLINE DRAWINGS



DIM	MILLIMETERS			INCHES		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.060	-	4.700	0.160	-	0.185
B	5.080	-	5.590	0.200	-	0.220
C	3.300	-	3.940	0.130	-	0.155
D	2.130	-	2.440	0.083	-	0.096
E	1.910	-	2.110	0.075	-	0.083
F	0.760	-	1.270	0.030	-	0.050
G	0.051	-	0.203	0.002	-	0.008
H	0.152	-	0.305	0.006	-	0.012

DO-214AA(SMB)

MOUNTING PAD LAYOUT



DIM	MILLIMETERS			INCHES		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		6.340			0.25	
B		2.720			0.107	
C		1.760			0.069	
D		2.290			0.09	

Packing Information

Product code	Pack	Reel Size (mm)	Quantity(pcs/reel)	Carton SizeLxWxH(mm)	Quantity(reeks/carton)
DO-214AA(SMB)	T/R	Φ330	3000	364x364x360	16