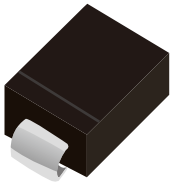
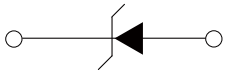
FEATURES

- Glass Passivated Die Construction
- Fast Recovery Time for High Efficiency
- Low reverse leakage
- Ideally Suited for Automatic Assembly



DO-214AA(SMB)



Schematic Symbol

MECHANICAL DATA

- Case Material: UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS AND CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	ES3AB	ES3BB	ES3CB	ES3DB	ES3FB	ES3GB	ES3HB	ES3JB	Unit
Marking		ES3AB	ES3BB	ES3CB	ES3DB	ES3FB	ES3GB	ES3HB	ES3JB	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	V_{RMS}	30	70	105	140	210	280	350	420	
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	500	600	
forward current	$I_{F(AV)}$	3								A
Surge peak forward current,8.3ms single half sine-wave superimposed on rated load per diode	I_{FSM}	100								
Junction-to-lead thermal resistance	$R_{\theta JL}$	24								°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	84								
Junction-to-case thermal resistance	$R_{\theta JC}$	26								
Operating junction and storage temperature range	T_J,T_{STG}	-55 to +150								°C

ELECTRICAL CHARACTERISTICS(T_A=25°C)

Parameter		Test Condition	Symbol	Min.	Max.	Unit
Forward voltage per diode [1]	ES3AB,ES3BB ES3CB,ESSDB	I_F =1.5A,T_J=25°C	V_F	0.80	0.92	V
	ES3FB,ES3GB			0.90	1.04	V
	ES3HB,ES3JB			1.11	1.30	V
	ES3AB,ES3BB ES3CB,ESSDB	I_F =3.0A,T_J=25°C	V_F	0.86	1.00	V
	ES3FB,ES3GB			0.98	1.13	V
	ES3HB,ES3JB			1.24	1.45	V
	ES3AB,ES3BB ES3CB,ESSDB	I_F =1.5A,T_J=125°C	V_F	0.66	0.75	V
	ES3FB,ES3GB			0.73	0.85	V
	ES3HB,ES3JB			0.85	0.98	V
	ES3AB,ES3BB ES3CB,ESSDB	I_F =3.0A,T_J=125°C	V_F	0.73	0.84	V
	ES3FB,ES3GB			0.83	0.95	V
	ES3HB,ES3JB			0.99	1.13	V
Reverse current @ rated V_R per diode [2]		T_J=25°C	I_R	-	10	uA
		T_J=125°C		-	100	uA
Junction capacitance	ES3AB,ES3BB ES3CB,ESSDB	1MHz,V_R=4.0V	C_J	46	-	V
	ES3FB,ES3GB			41	-	V
	ES3HB,ES3JB			34	-	V
Reverse recovery time		I_F=0.5A,I_R=1.0A,I_{RR}=0.25A	t_{rr}	-	35	ns

Notes :

1. Pulse test with PW=0.3ms
2. Pulse test with PW=30ms

CHARACTERISTIC CURVES

Fig. 1- Maximum Forward Current Derating Curve

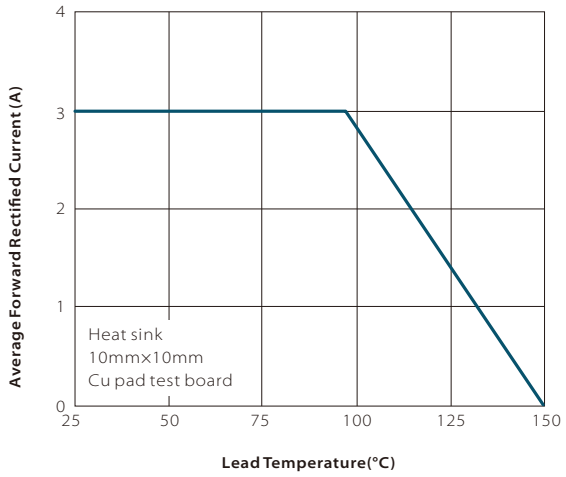


Fig. 2-Typical Junction Capacitance

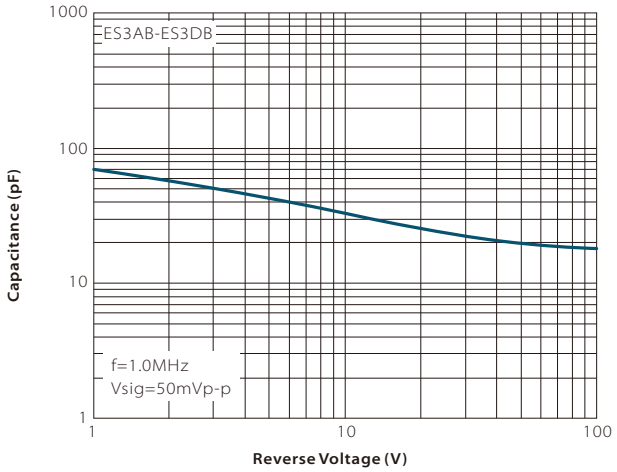


Fig. 3-Typical Reverse Characteristics

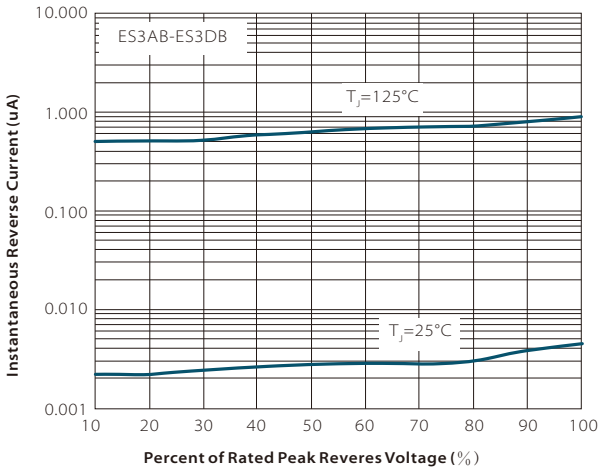


Fig. 4-Typical Forward Characteristics

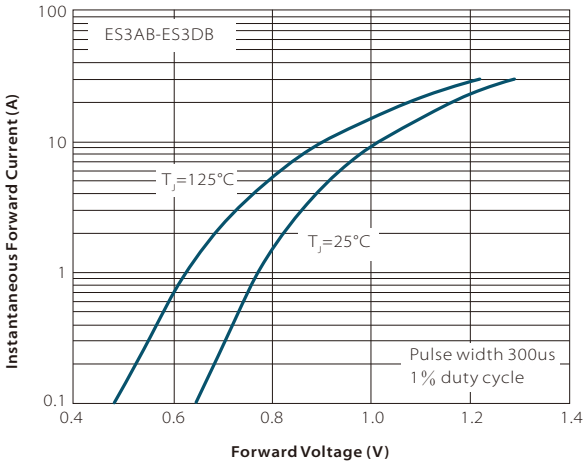


Fig. 5- Typical Junction Capacitance

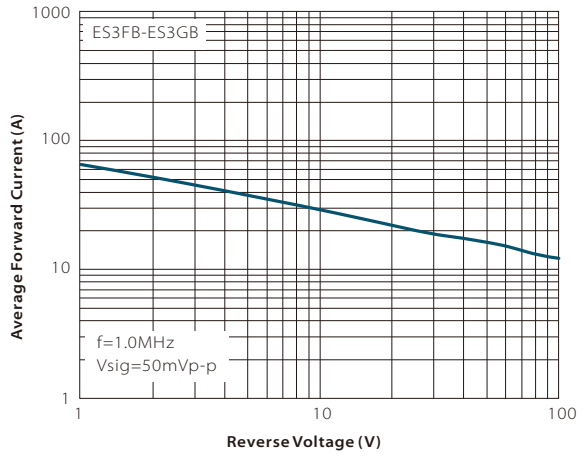


Fig. 6-Typical Reverse Characteristics

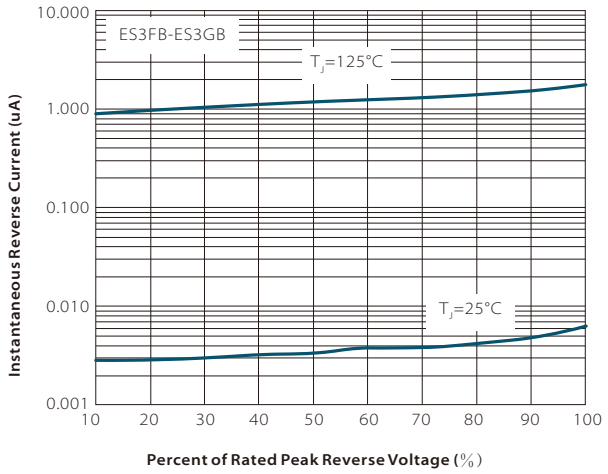


Fig. 7-Typical Forward Characteristics

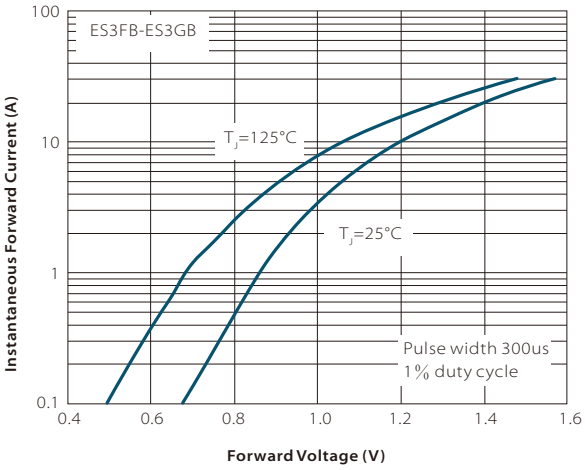


Fig. 8-Typical Junction Capacitance

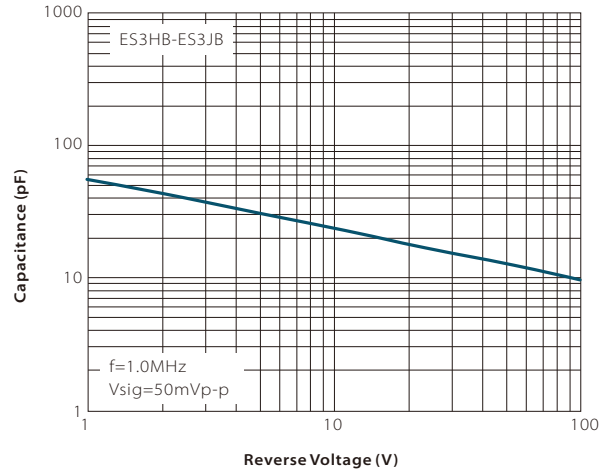


Fig. 9- Typical Reverse Capacitance

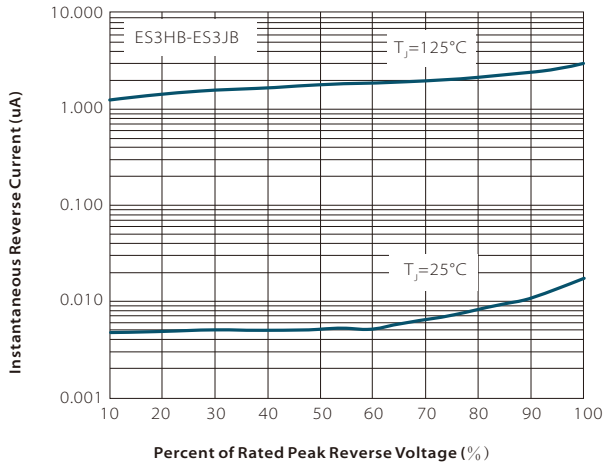
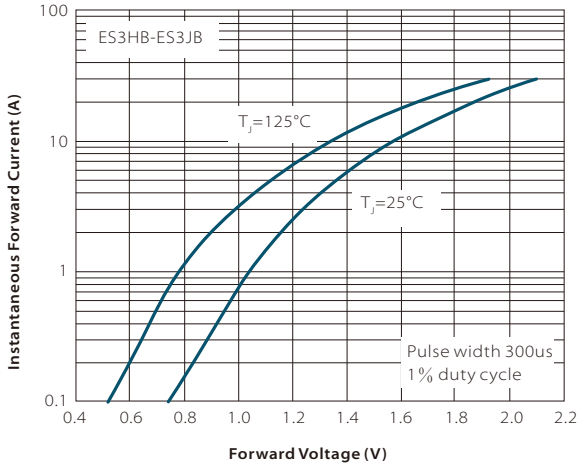
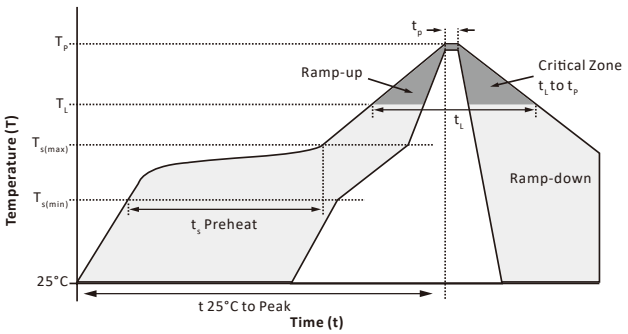


Fig. 10- Typical Forward Characteristics

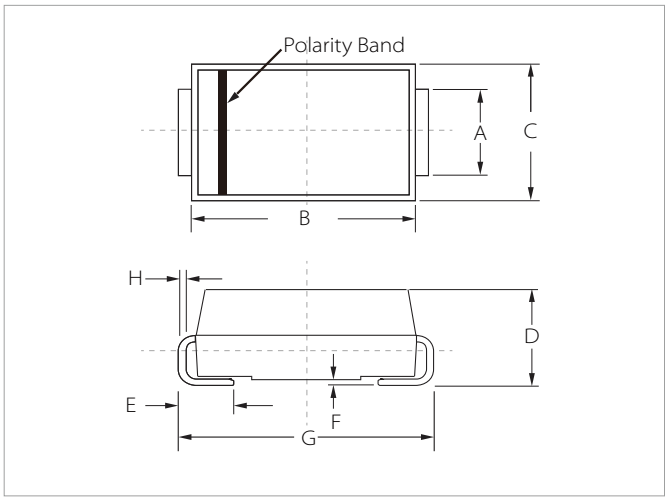


SOLDERING PARAMETERS

Reflow Condition		Lead–free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
	$T_{S(max)}$ to T_L - Ramp-up Rate	3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

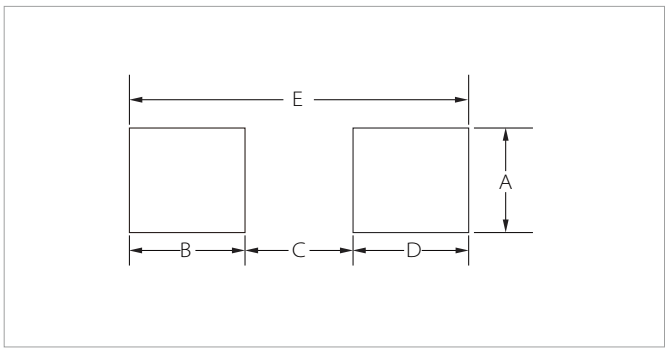


DO-214AA(SMB) PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.80	2.20	0.071	0.087
B	4.30	4.70	0.170	0.185
C	3.40	3.90	0.134	0.153
D	2.15	2.55	0.085	0.100
E	1.00	1.50	0.039	0.059
F	0.02	0.20	0.001	0.008
G	5.10	5.50	0.200	0.216
H	0.15	0.30	0.006	0.012

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.20	-	0.087	-
B	1.45	-	0.057	-
C	-	2.55	-	0.010
D	1.45	-	0.057	-
E	5.60REF		0.220REF	

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
ES3AB-ES3JB	DO-214AA(SMB)	3000PCS	13"

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