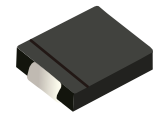
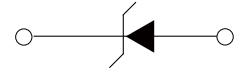


FEATURES

- | Low profile package
- | Idea for printed circuit board
- | Glass passivated Junction chip
- | High forward surge current capability
- | Low reverse leakage



DO-214AB(SMC)



Schematic Symbol

MECHANICAL DATA

- | Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- | Moisture Sensitivity: Level 1 per J-STD-020
- | Polarity: Cathode line denotes the cathode end

APPROVALS

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

MAXIMUM RATINGS AND CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	ES5D	ES5G	ES5J	Unit
Marking		ES5D	ES5G	ES5J	
Maximum repetitive peak reverse voltage	V _{RRM}	200	400	600	V
Maximum RMS voltage	V _{RMS}	140	280	420	
Maximum DC blocking voltage	V _{DC}	200	400	600	
Maximum average forward rectified current	I _{F(AV)}	5			A
Surge peak forward current single half sine-wave superimposed on rated load	8.3 mS at T _A =25°C	164			
	1.0 mS at T _A =25°C	364			
Junction-to-lead thermal resistance per diode	R _{θJL}	25			°C/W
Junction-to-ambient thermal resistance per diode	R _{θJA}	54			
Junction-to-case thermal resistance per diode	R _{θJC}	18			
Junction temperature	T _J	-55 to +150			°C
Storage temperature	T _{STG}	-55 to +150			

Thermal Performance Note: Units mounted on PCB (16mm x 16mm Cu pad test board)

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter		Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Forward voltage ⁽¹⁾	ES5D	V _F	I _F =2.5A, T _J =25°C	0.82			V
			I _F =5A, T _J =25°C	0.89		0.95	
			I _F =2.5A, T _J =125°C	0.67			
			I _F =5A, T _J =125°C	0.76		0.85	
	ES5G		I _F =2.5A, T _J =25°C	0.95			
			I _F =5A, T _J =25°C	1.08		1.30	
			I _F =2.5A, T _J =125°C	0.77			
			I _F =5A, T _J =125°C	0.92		1.10	
	ES5J		I _F =2.5A, T _J =25°C	1.10			
			I _F =5A, T _J =25°C	1.36		1.70	
			I _F =2.5A, T _J =125°C	0.83			
			I _F =5A, T _J =125°C	0.96		1.20	
Reverse current @ rated V _R ⁽²⁾		I _R	T _J =25°C			10	uA
			T _J =125°C			200	
Reverse recovery time		t _{rr}	I _F =0.5A, I _R =1.0A, I _{rr} =0.25A			35	ns
Junction capacitance	ES5D	C _J	1MHz, V _R =4.0V	185			pF
	ES5G			123			
	ES5J			71			

Notes: (1) Pulse test with PW=0.3 ms (2) Pulse test with PW=30 ms

CHARACTERISTIC CURVES

Fig. 1- Forward Current Derating Curve

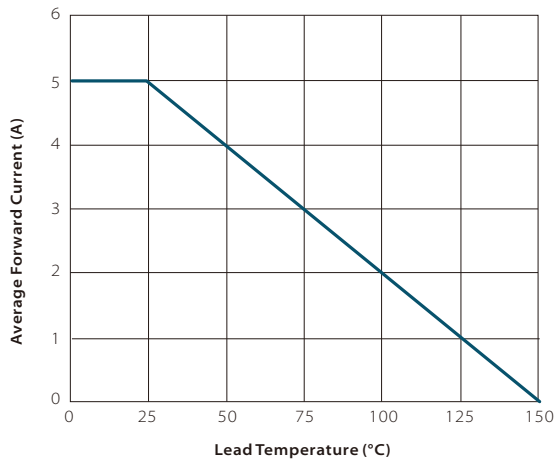


Fig. 2-Typical Junction Capacitance

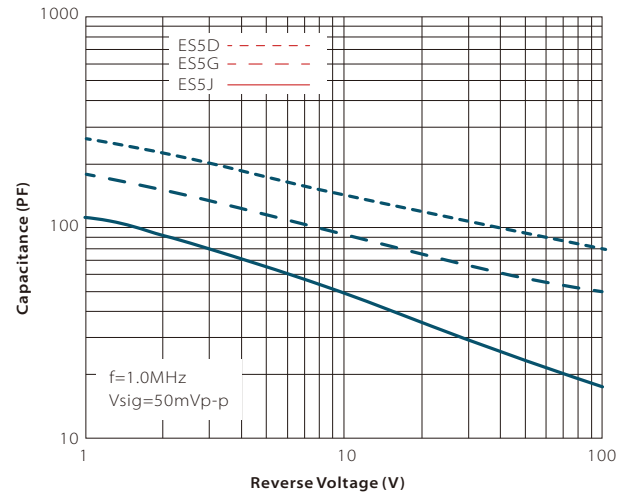


Fig. 3-Typical Reverse Characteristics

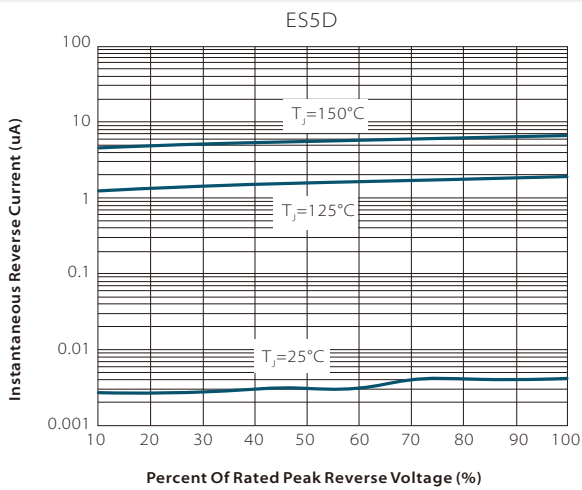
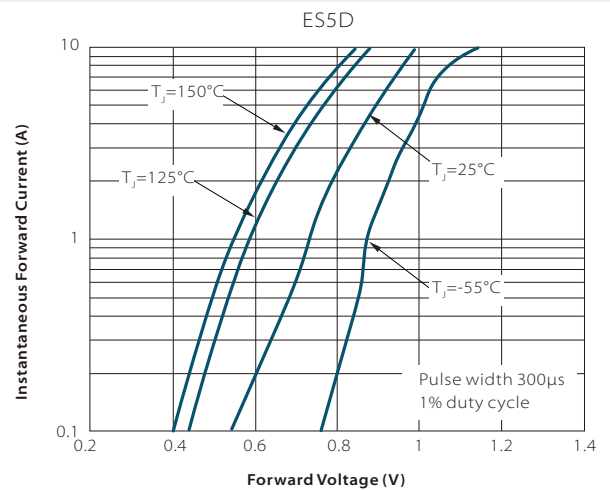
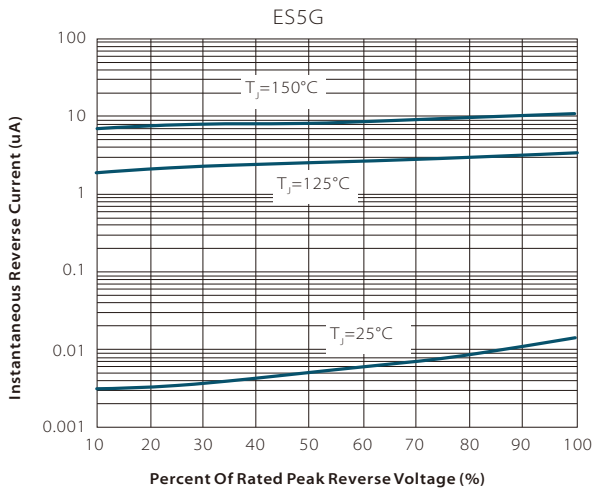
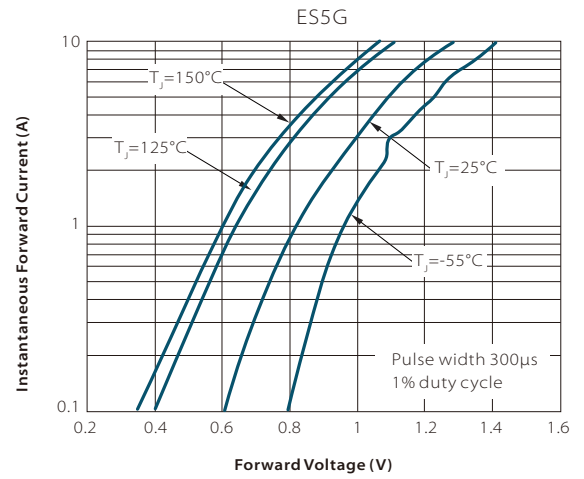
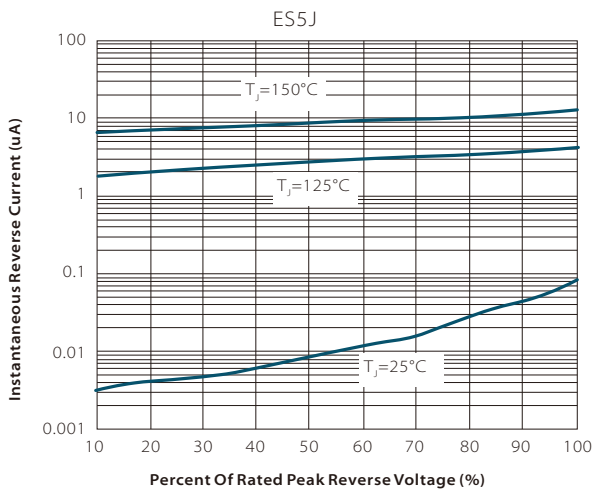
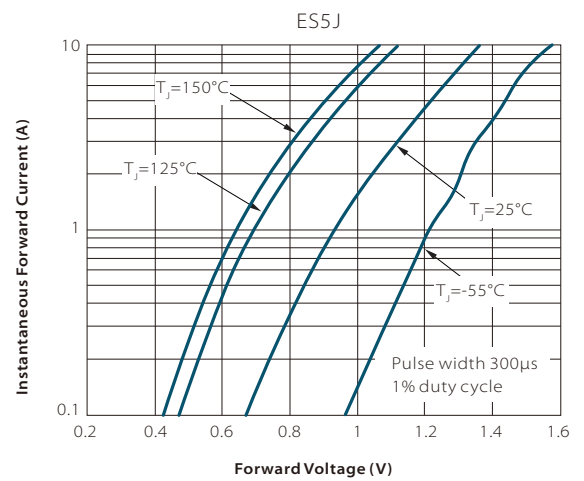


Fig. 4-Typical Forward Characteristics

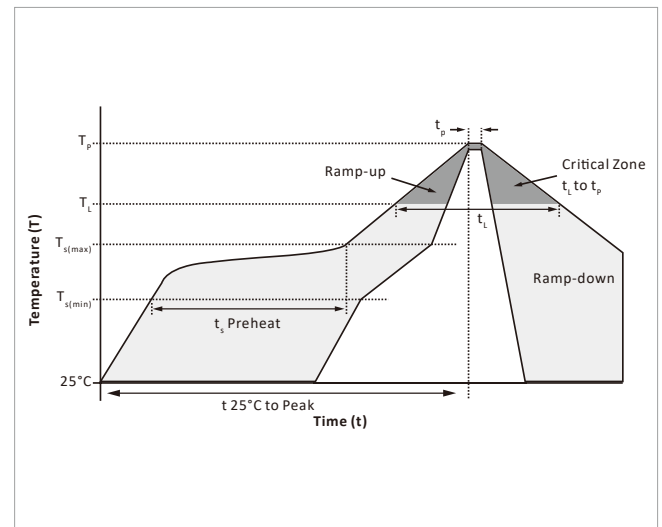


CHARACTERISTIC CURVES

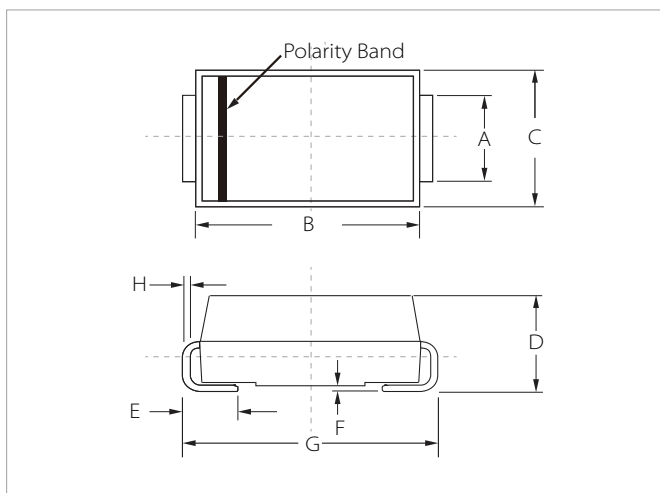
Fig. 5-Typical Reverse Characteristics

Fig. 6-Typical Forward Characteristics

Fig. 7-Typical Reverse Characteristics

Fig. 8-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_p)	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

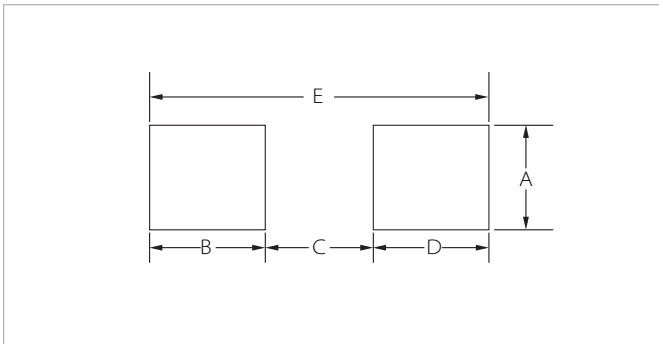


DO-214AB(SMC) PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.20	0.110	0.126
B	6.60	7.20	0.260	0.283
C	5.70	6.10	0.224	0.240
D	2.15	2.75	0.085	0.108
E	1.00	1.60	0.039	0.063
F	0.02	0.20	0.000	0.008
G	7.60	8.00	0.299	0.315
H	0.15	0.30	0.006	0.012

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.30	-	0.129	-
B	2.40	-	0.094	-
C	-	4.20	-	0.165
D	2.40	-	0.094	-
E	8.20REF		0.323REF	

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
ES5D-ES5J	DO-214AB(SMC)	3000PCS	13"

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