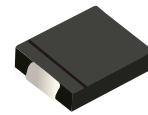


FEATURES

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Superfast reverse recovery time



DO-214AB(SMC)



Schematic Symbol

APPROVALS

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

MAXIMUM RATINGS AND CHARACTERISTICS (T_A=25°C)

Parameter		Symbol	ES10AC	ES10BC	ES10CC	ES10DC	ES10EC	ES10GC	ES10JC	Unit
Marking			ES10AC	ES10BC	ES10CC	ES10DC	ES10EC	ES10GC	ES10JC	
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	
Maximum DC Blocking Voltage		V _{DC}	50	100	150	200	300	400	600	
Maximum Average Forward Rectified Current @ Fig.6		I _{F(AV)}	10							A
Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)		I _{FSM}	240							
Peak Forward Surge Current,1.0ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)		I _{FSM}	480							
Max Instantaneous Forward Voltage at 10 A		V _F	1.0				1.3		1.7	V
Maximum DC Reverse Current at Rated DC Reverse Voltage	T _a =25°C	I _R	10							μA
	T _a =125°C		250							
Maximum Reverse Recovery Time ⁽²⁾		T _{rr}	35							ns
Typical Junction Capacitance ⁽¹⁾		C _j	280				190		100	pF
I ² t Rating for fusing (3ms≤t≤8.3ms)		I ² t	239							A ² S
Typical Thermal Resistance ⁽³⁾		R _{θJA}	37							°C/W
		R _{θJC}	10							
		R _{θJL}	13							
Operating Junction And Storage Temperature Range		T _J ,T _{STG}	-55 to +150							°C

(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C (2) Measured with I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A.

(3) P.C.B. mounted with 1.5" X 1.5" (3.81 X 3.81 cm) copper pad areas.

CHARACTERISTIC CURVES

Fig. 1- Maximum Average Forward Current Rating

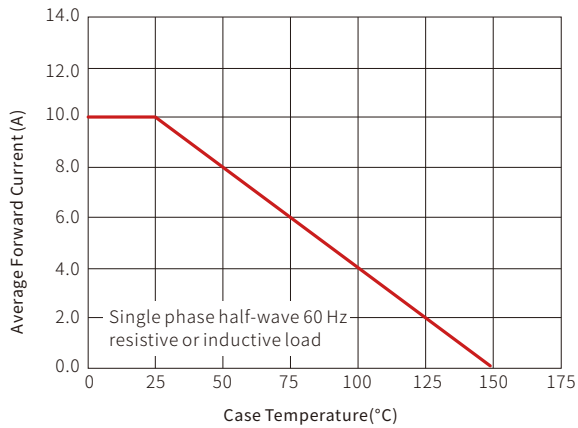


Fig. 2- Typical Reverse Characteristics

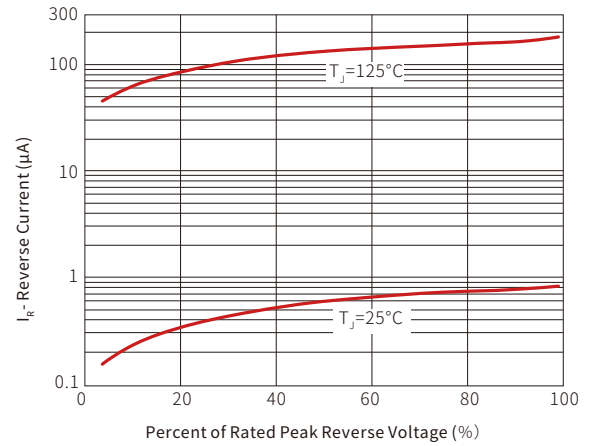


Fig. 3- Typical Forward Characteristics

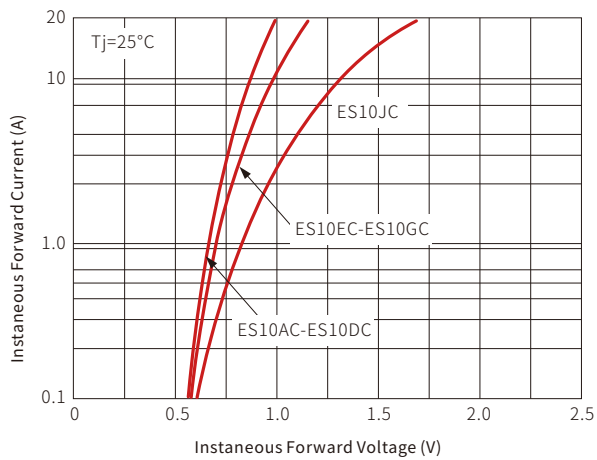


Fig. 4- Typical Junction Capacitance

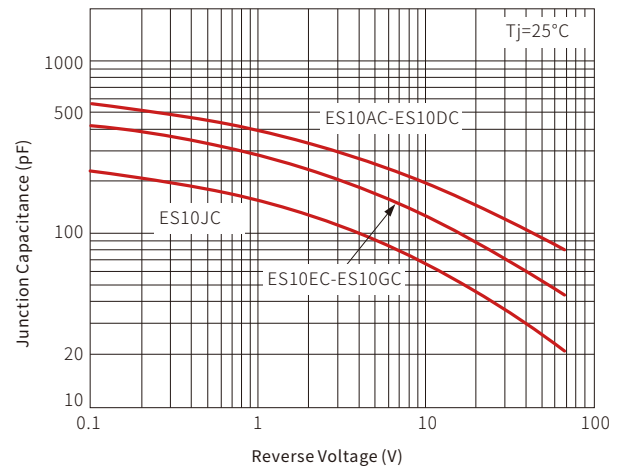


Fig. 5- Maximum Non-Repetitive Peak Forward Surge Current

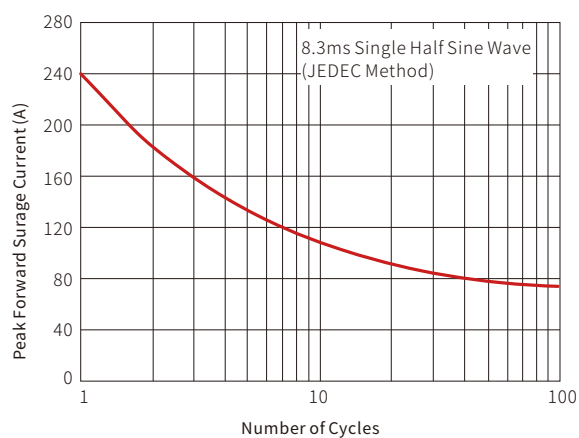
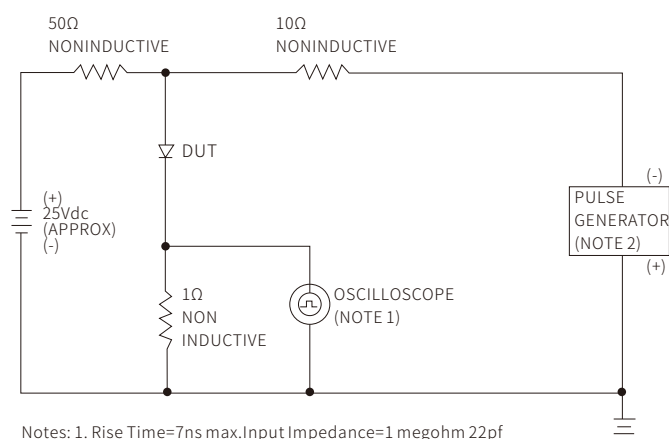
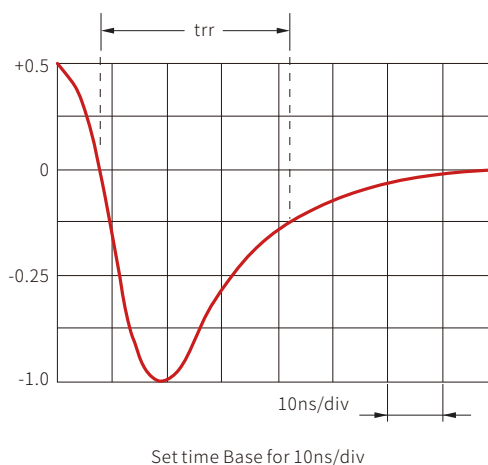


Fig. 6-Reverse Recovery Time Characteristic And Test Circuit Diagram

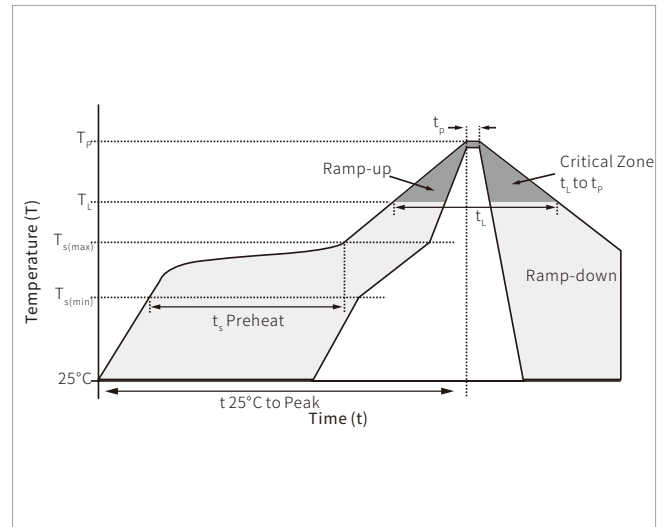


Notes: 1. Rise Time=7ns max. Input Impedance=1 megohm 22pf
 2. Rise Time=10ns max. Source Impedance=50 ohms

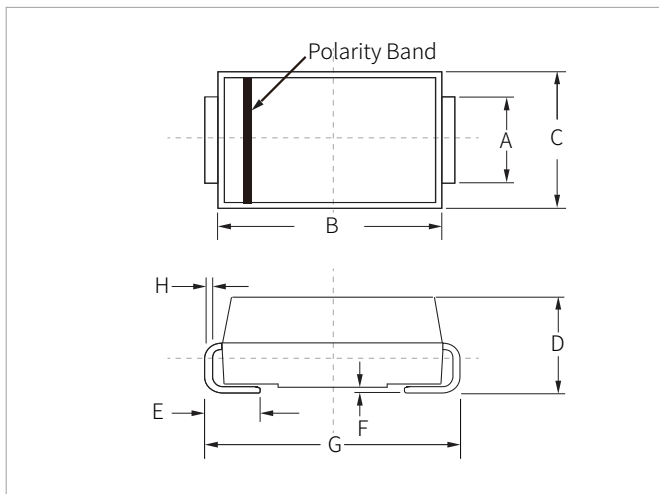


SOLDERING PARAMETERS

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

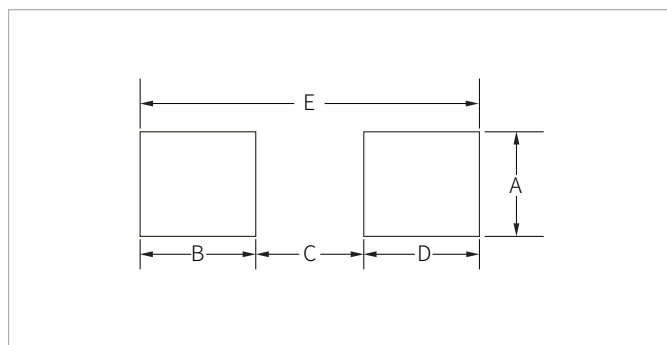


DO-214AB(SMC) PACKAGE INFORMATION



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	5.50	6.30	0.217	0.248
D	2.00	2.75	0.079	0.108
E	0.75	1.60	0.030	0.063
F	0.02	0.20	0.000	0.008
G	7.60	8.20	0.299	0.323
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
ES10AC-ES10JC	DO-214AB(SMC)	3000PCS	13"

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