



/ Revised record

A	2019-1-14				
B	2021-2-9	8			



/ Descriptions

50V~1000V

5.0A SMC

Surface Mount Ultrafast Recovery Rectifier, Reverse Voltage: 50 to 1000V, Forward Current: 5.0A, SMC package.

/ Features

RoHS

2011/65/

Glass Passivated Chip Junction, High efficiency, Lead free in comply with EU RoHS 2011/65/EU directives, For surface mounted applications, Halogen free product.

/ Applications

General purpose.

/ Equivalent Circuit



/ Pinning



/ Marking

See Marking Instructions.



/ Absolute Maximum Ratings(Ta=25)

参数 Parameter	参数符号 Symbol	数值 Rating							单位 Unit
		US5AC	US5BC	US5DC	US5GC	US5JC	US5KC	US5MC	
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 at $T_C=100^{\circ}C$	$I_F (AV)$	5.0							A
Typical Junction Capacitance at $V_R=4V, f=1MHz$	C_j	50							pF
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	120							A
Typical Thermal Resistance ⁽¹⁾	$R_{\theta JA}$	35							$^{\circ}C/W$
Operating and Storage Temperature Range	T_j, T_{stg}	-55~+150							$^{\circ}C$

Note:

(1) P.C.B. mounted with 2.0 X 2.0" (5 X 5 cm) copper pad areass .

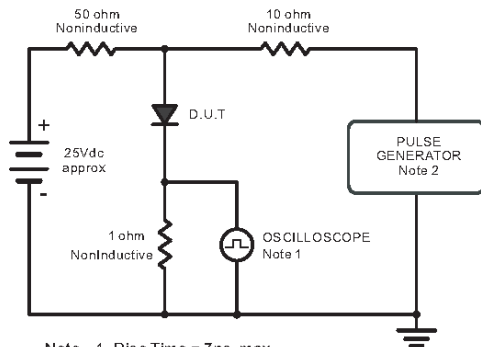
/ Electrical Characteristics(Ta=25)

参数 Parameter	参数符号 Symbol	测试条件 Test condition	数值 Rating							单位 Unit
			US5AC	US5BC	US5DC	US5GC	US5JC	US5KC	US5MC	
Maximum Instantaneous Forward Voltage	V _F	I _F =5.0A	1.0			1.3	1.65			V
Maximum DC Reverse Current at Maximum DC Blocking Voltage	I _R	T _a =25℃	5.0							uA
		T _a =125℃	100							
Maximum Reverse Recovery Time	T _{rr}	I _F =0.5A I _R =1.0A I _{rr} =0.25A	50				75			ns



/ Electrical Characteristic Curve

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



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

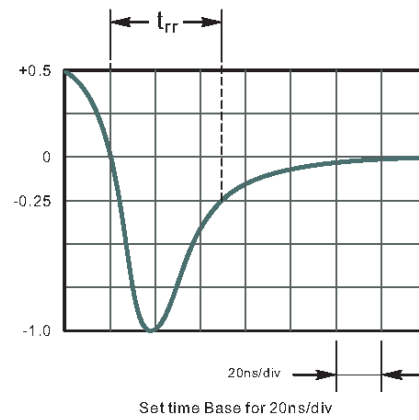


Fig.2 Maximum Average Forward Current Rating

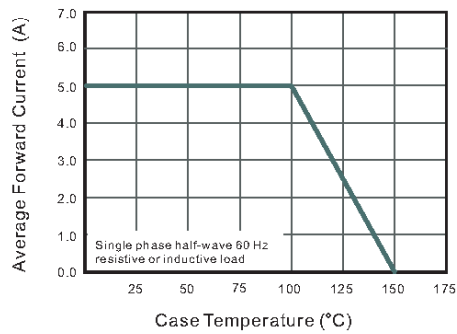


Fig.3 Typical Reverse Characteristics

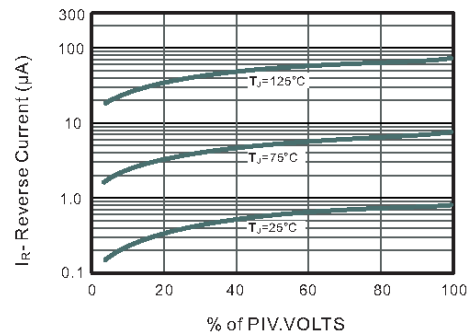


Fig.4 Typical Forward Characteristics

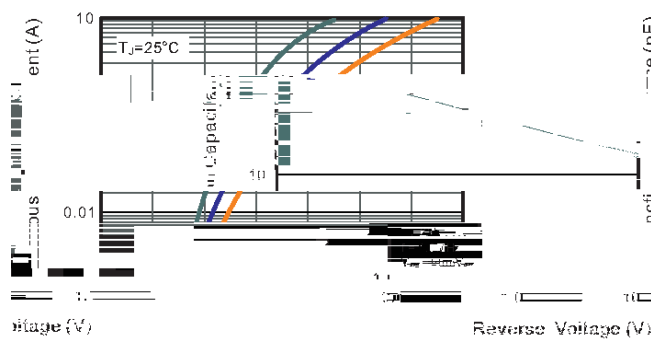


Fig.5 Typical Junction Capacitance

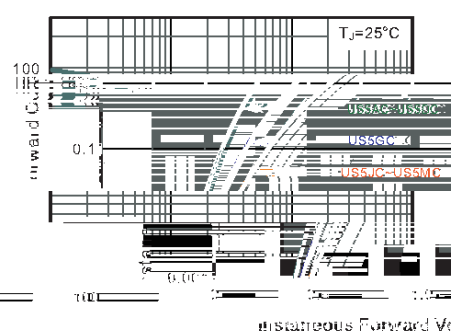


Fig.6 Maximum Non-Rep Forward Surge Current

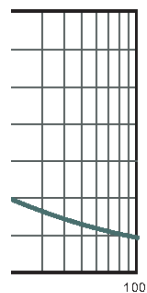
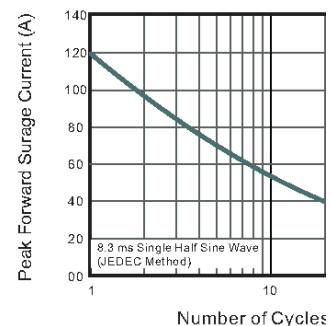


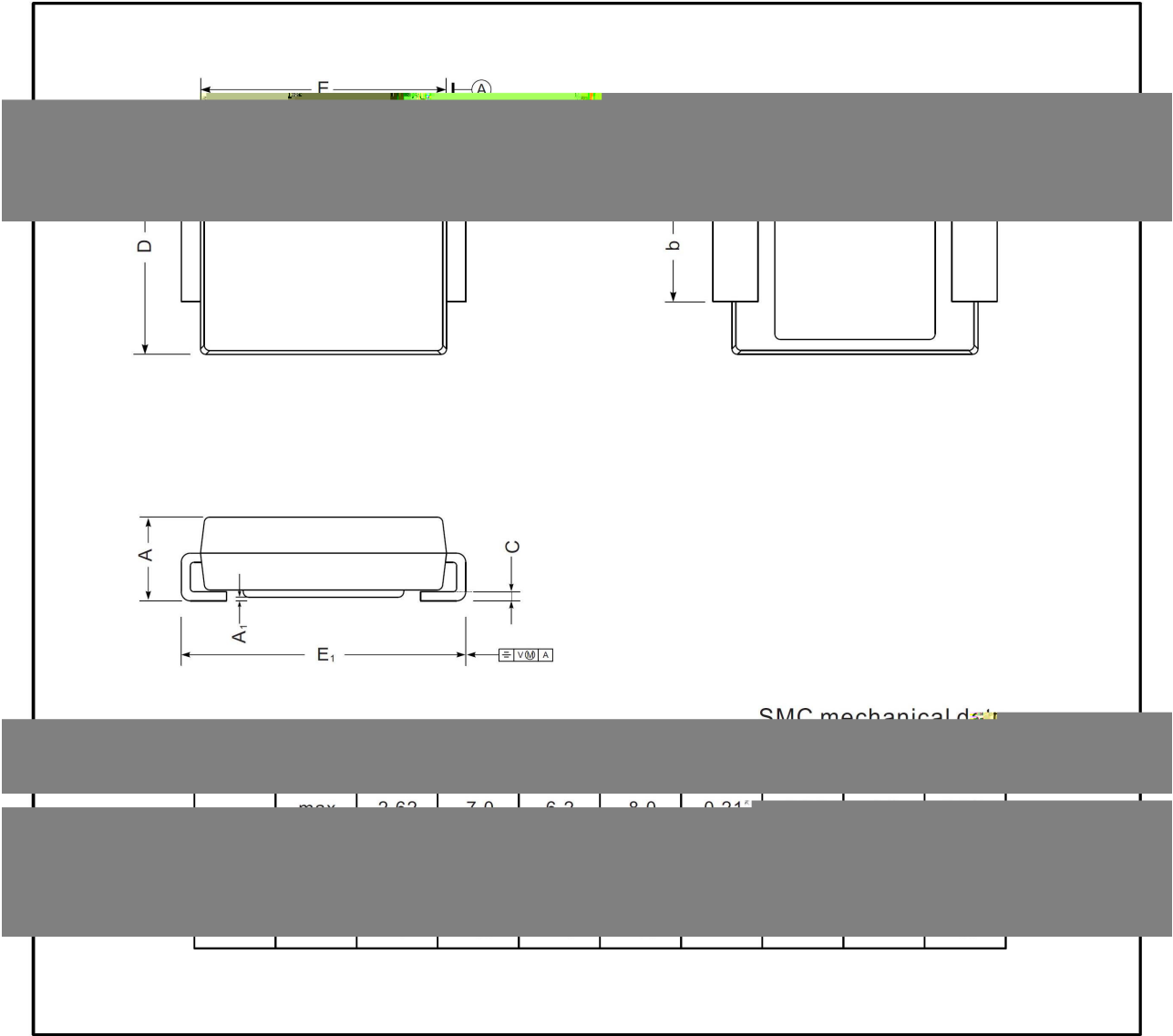
Fig.6 Maximum Non-Rep Forward Surge Current





/ Package Dimensions

SMC





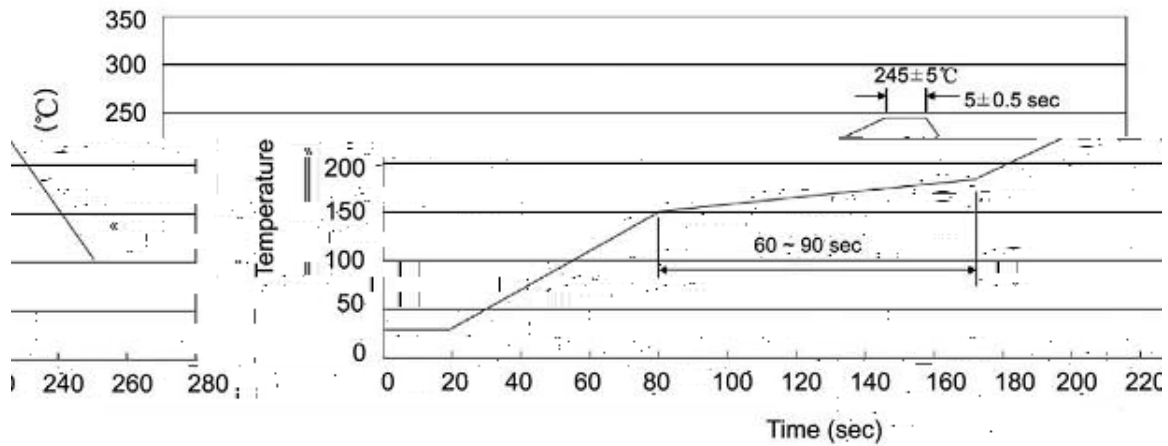
/ Marking Instructions

Marking

Type number		Marking code	
US5AC	I	US5AC	I
US5AC	I	US5AC	I
US5AC	I	US5AC	I
US5AC	I	US5AC	I
US5AC	I	US5AC	I
US5AC	I	US5AC	I
US5AC	I	US5AC	I



() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- | | | | | | |
|---|-------|-----|-----------|--------|--|
| 1 | 150 | 180 | 60 | 90sec; | 1.Preheating:150~180°C, Time:60~90sec. |
| 2 | 245±5 | | 5±0.5sec; | | 2.Peak Temp.:245±5°C, Duration:5±0.5sec. |
| 3 | | 2 | 10°C/sec. | | 3. Cooling Speed: 2~10°C/sec. |

/ Resistance to Soldering Heat Test Conditions

260±5°C 10±1 sec. Temp.:260±5°C Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box	Outer Box
SMC	3000	2	6000	6	36000	13" ×16	337X337X49	380X335X366

/ Notices