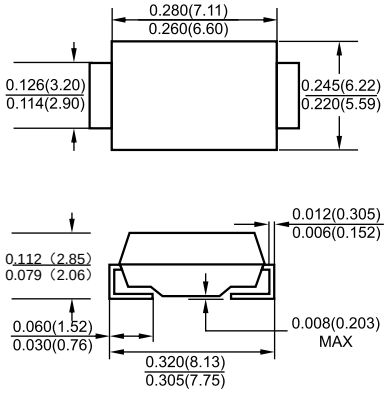
US5AC-US5MC

5.0AMP. Surface Mount High Efficiency Rectifiers

SMC/DO-214AB



Dimensions in inches and (millimeters)

Features

- Low cost
- Low leakage
- Low forward voltage drop
- High current capability
- Easily cleaned with Alcohol,Isopropanol
- and similar solvents
- The plastic material carries U/L recognition 94V-0

Mechanical Data

- Case:JEDEC DO-214AB,molded plastic
- Polarity: Color band denotes cathode
- Weight: 0.007 ounces,0.21 grams
- Mounting position: Any

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

Single phase,half wave,60 Hz,resistive or inductive load. For capacitive load,derate by 20%.

Parameter	Symbol	US5AC	US5BC	US5DC	US5GC	US5JC	US5KC	US5MC	UNITS
Marking code		US5A	US5B	US5D	US5G	US5J	US5K	US5M	
Maximum recurrent 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 forw ard rectified current @T_L=90℃	$I_{F(AV)}$	5.0							A
Peak forw ard surge current 8.3ms single half-sine-w ave superimposed on rated load @T_J=125℃	I_{FSM}	200							A
Maximum instantaneous forw ard voltage at 5.0 A	V_F	1.0			1.3	1.7			V
Maximum reverse current @T_A=25℃ at rated DC blocking voltage @T_A=125℃	I_R	10 300							μA
Typical reverse recovery time (Note1)	t_{rr}	50				75			ns
Typical junction capacitance (Note2)	C_J	15				12			pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	15							℃/W
Operating junction temperature range	T_J	- 55 ---- + 150							℃
Storage temperature range	T_{STG}	- 55 ---- + 150							℃

NOTE: 1. Measured with I_F=0.5A, I_R=1A, I_{rr}=0.25A.

2. Measured at 1.0MHZ and applied reverse voltage of 4.0V DC.

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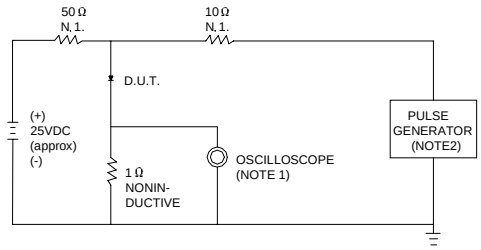
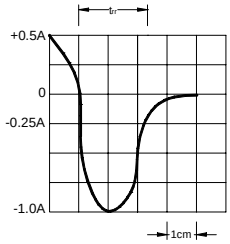
Ratings AND Charactieristic Curves

FIG.1 -- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

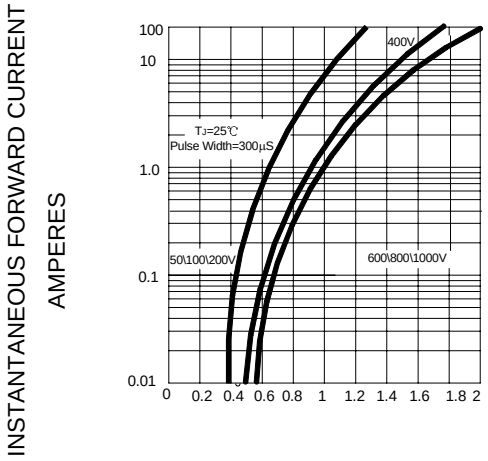




NOTES:1.RISE TIME = 7ns MAX.INPUT IMPEDANCE = 1MΩ.22pF.
2.RISE TIME =10ns MAX.SOURCE IMPEDANCE=50 Ω.

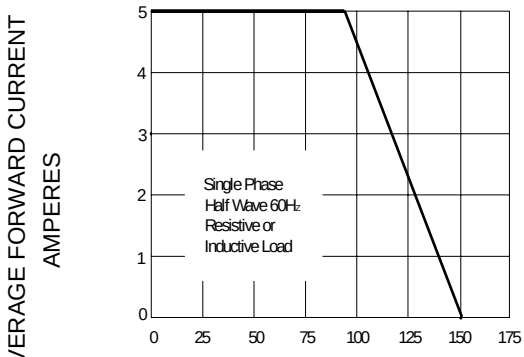
SET TIME BASE FOR 20/30 ns/cm

FIG.2 -- TYPICAL FORWARD CHARACTERISTIC



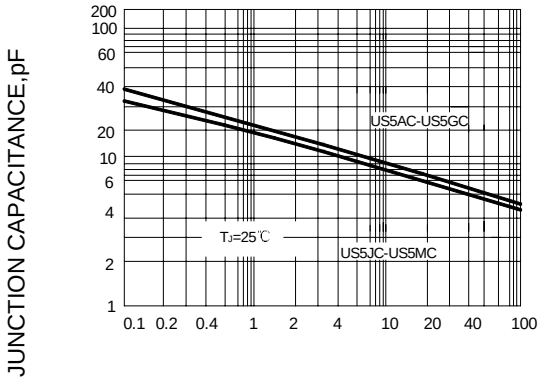
INSTANTANEOUS FORWARD VOLTAGE, VOLTS

FIG.3 -- FORWARD DERATING CURVE



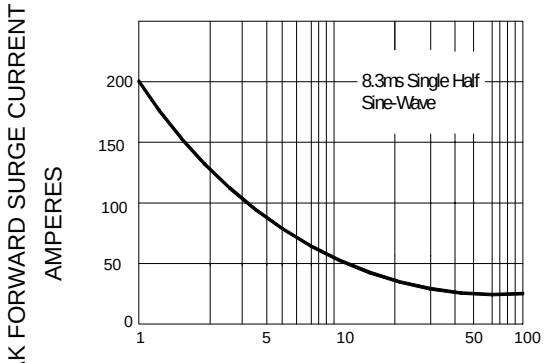
LEAD TEMPERATURE,℃

FIG.4 -- TYPICAL JUNCTION CAPACITANCE



REVERSE VOLTAGE,VOLTS

FIG.5 -- PEAK FORWARD SURGE CURRENT



NUMBER OF CYCLES AT 60Hz

PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
SMC	3000/REEL	42000	36X36X36.5	18.50	15.50