




SPECIFICATION SHEET

SPECIFICATION SHEET NO.	N0310-SMASS31000S310
DATE	Mar. 10, 2021
REVISION	A0
DESCRIPTION	<p>SMD Schottky Barrier Rectifier, 2 Pads, SMA series, SS310 Type</p> <p>Reverse Voltage 100V Max. Forward Current 3.0A Max.</p> <p>Operating Temp. Range -50°C ~+150°C</p> <p>Package in Tape/Reel, 2000pcs/Reel</p> <p>RoHS/RoHS III compliant</p>
CUSTOMER	
CUSTOMER PART NUMBER	
CROSS REF. PART NUMBER	
ORIGINAL PART NUMBER	MDD SS310
PART CODE	SMASS31000S310

VENDOR APPROVE			
Issued/Checked/Approved			
DATE: March 10, 2021			

CUSTOMER APPROVE	
DATE:	

SMD SCHOTTKY BARRIER RECTIFIER SMA SERIES



MAIN FEATURE

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Low power loss and high efficiency
- Built-in strain relief,
- High forward surge current capability
- Metal silicon junction, majority carrier conduction
- High temperature soldering guaranteed: 250°C/ 10 seconds at terminals

APPLICATION

- For surface mounted applications

RFQ

[Request For Quotation](#)

PART CODE GUIDE

SMA	SS31000	S	310
1	2	3	4

- 1) **SMA**: SMD Schottky Barrier Rectifier, 2 Pads, Package SMA series
- 2) **SS3100**: Type code for original part number SS310
- 3) **S**: Package code, Tape/reel, 2000pcs/reel.
- 4) **310**: Specification code for Reverse Voltage 100V Max. Forward Current 3.0A Max.

SMASS12000S102	SMASS13000S103	SMASS14000S104	SMASS15000S105	SMASS16000S106
SMASS18000S108	SMASS11000S110	SMASS11500S115	SMASS12000S120	
SMASS22000S202	SMASS23000S203	SMASS24000S204	SMASS25000S205	SMASS26000S206
SMASS28000S208	SMASS21000S210	SMASS21500S215	SMASS22000S220	
SMASS32000S302	SMASS33000S303	SMASS34000S304	SMASS35000S305	SMASS36000S306
SMASS38000S308	SMASS31000S310	SMASS31500S315	SMASS32000S320	
SMASS52000S502	SMASS53000S503	SMASS54000S504	SMASS55000S505	SMASS56000S506
SMASS58000S508	SMASS51000S510	SMASS51500S515	SMASS52000S520	

SMD SCHOTTKY BARRIER RECTIFIER SMA SERIES

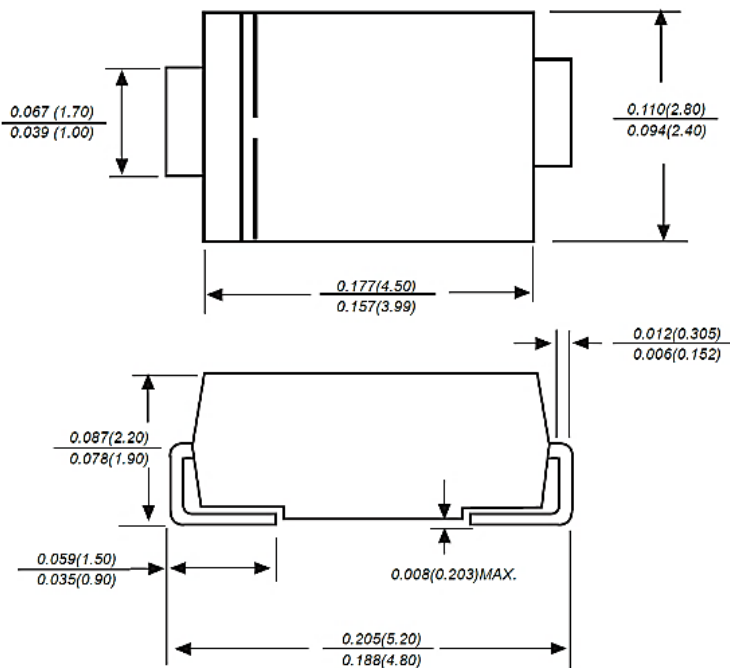
DIMENSION (Unit: Inch/mm)

Image for reference

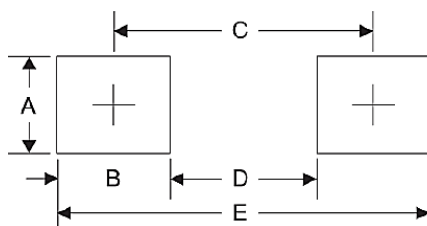


Marking: SS310

SMA/DO-214AC



Recommend Pad Layout



Symbol	Unit (Inch)	Unit (mm)
A	0.066	1.680
B	0.060	1.520
C	0.154	3.900
D	0.095	2.410
E	0.215	5.450

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MECHANICAL DATA

Case	Terminals	Polarity	Mounting Position	Weight per piece
JEDEC SMAF molded plastic body	Solder plated, Solderable per MIL-STD-750, Method 2026	Color band denotes cathode end	Any	0.0018 Ounce, 0.0510 grams

MAX. RATING & CHARACTERISTICS

Parameter	SYMBOLS	VALUE			UNITS
		Min.	Typical	Max.	
Repetitive peak reverse voltage	V_{RRM}			100	Volts
RMS voltage	V_{RMS}			70	Volts
DC blocking voltage	V_{DC}			100	Volts
Average forward output rectified current at TL(see fig.1)	I_{AV}			3.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}		100		A
Instantaneous forward voltage at 3.0A	V_F			0.85	Volts
DC reverse current at rated DC blocking voltage	I_R			0.50	mA
				10.0	mA
Junction capacitance (Note 2)	C_J		300		pF
Thermal resistance (Note 3)	R_{QJA}		55		°C/W
Operating junction temperature range	T_J	-50		+125	°C
Storage temperature range	T_{STG}	-50		+150	°C

Note

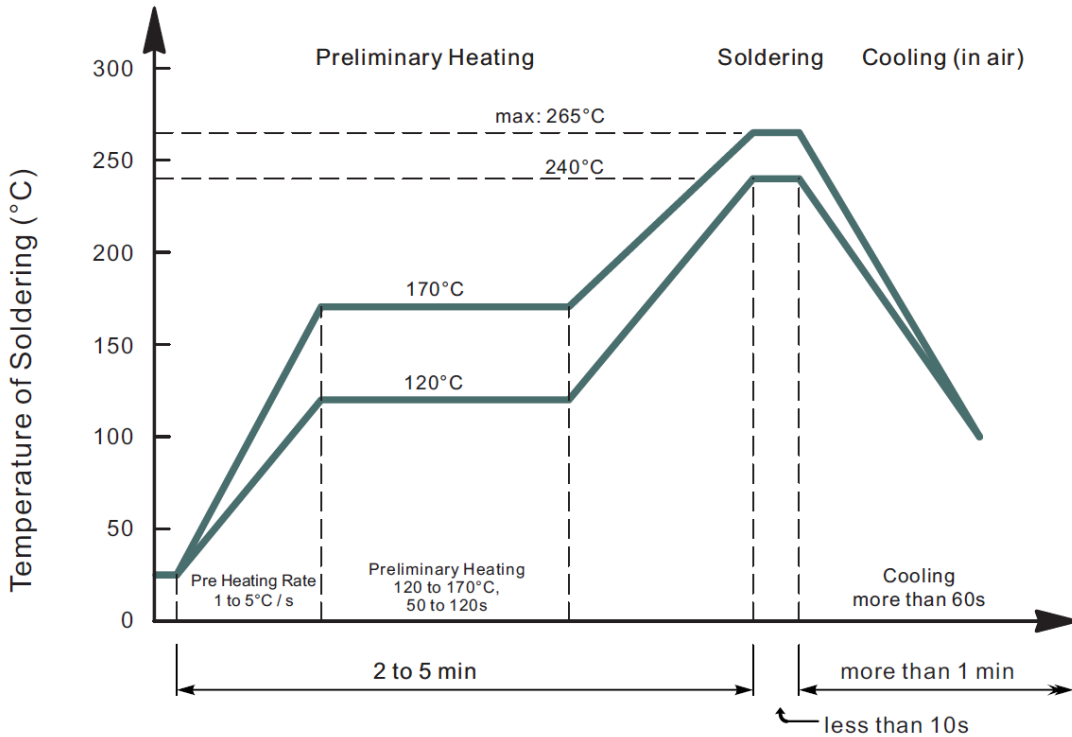
- Ratings at 25 C ambient temperature unless otherwise specified. Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.
- Measured at 1.0MHz and applied reverse voltage of 4.0Voltage
- P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas.

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RELIABILITY

Number	Experiment Items	Experiment Method And Conditions	Reference Documents
1	Solder Resistance Test	Test 260°C± 5°C for 10 ± 2 sec. Immerse body into solder 1/16" ± 1/32"	MIL-STD-750D METHOD-2031.2
2	Solderability Test	230°C ±5°C for 5 sec.	MIL-STD-750D METHOD-2026.1 0
3	Pull Test	1 kg in axial lead direction for 10 sec.	MIL-STD-750D METHOD-2036.4
4	Bend Test	0.5Kg Weight Applied To Each Lead, Bending Arcs 90 °C ± 5 °C For 3 Times	MIL-STD-750D METHOD-2036.4
5	High Temperature Reverse Bias Test	TA=100°C for 1000 Hours at VR=80% Rated VR	MIL-STD-750D METHOD-1038.4
6	Forward Operation Life Test	TA=25°C Rated Average Rectified Current	MIL-STD-750D METHOD-1027.3
7	Intermittent Operation Life Test	On state: 5 min with rated IRMS Power Off state: 5 min with Cool Forced Air. On and off for 1000 cycles.	MIL-STD-750D METHOD-1036.3
8	Pressure Cooker Test	15 PSIG, TA=121°C, 4 hours	MIL-S-19500 APPENOIXC
9	Temperature Cycling Test	-55°C~+125°C; 30 Minutes For Dwelled Time 5 minutes for transferred time. Total: 10 cycles.	MIL-STD-750D METHOD-1051.7
10	Thermal Shock Test	0°C for 5 minutes., 100°C for 5minutes, Total: 10 cycles	MIL-STD-750D METHOD-1056.7
11	Forward Surge Test	8.3ms Single Sale Sine-wave One Surge.	MIL-STD-750D METHOD-4066.4
12	Humidity Test	TA=65°C, RH=98% for 1000 hours.	MIL-STD-750D METHOD-1021.3
13	High Temperature Storage life Test	150°C for 1000 Hours	MIL-STD-750D METHOD-1031.5

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SUGGESTED REFLOW PROFILE (For Reference Only)



- Recommended peak temperature is over 245°C, If peak temperature is below 245 °C, you may adjust the following parameters; time length of peak temperature (longer), time length of soldering (longer), thickness of solder paste (thicker)
- Welding shall not exceed 2 times
- Remark: lead free solder paste (96.5 sn/3.0 Ag/0.5Cu)

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RATINGS AND CHARACTERISTIC CURVES (For Reference Only)

Fig.1 Forward Current Derating Curve

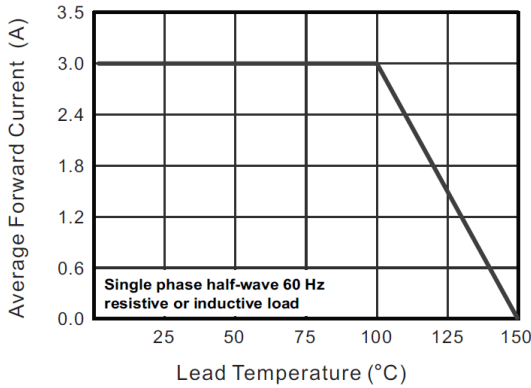


Fig.2 Typical Reverse Characteristics

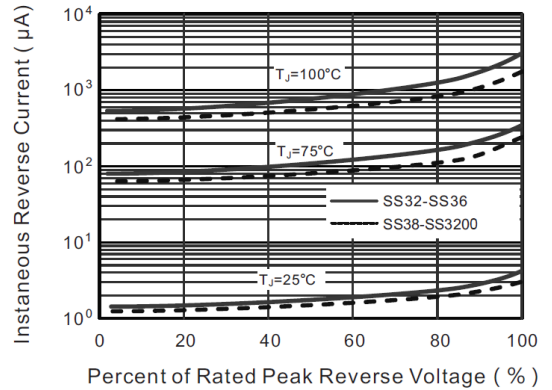


Fig.3 Typical Forward Characteristic

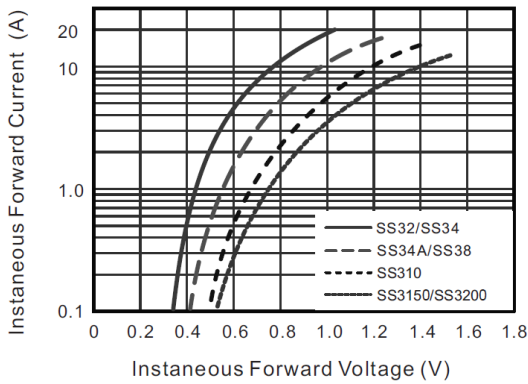


Fig.4 Typical Junction Capacitance

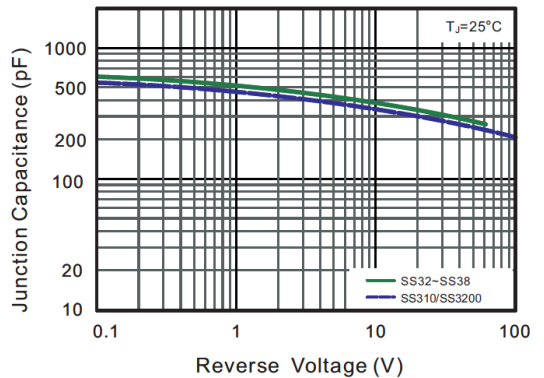


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

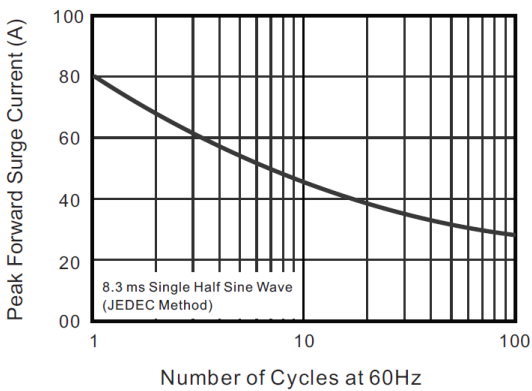
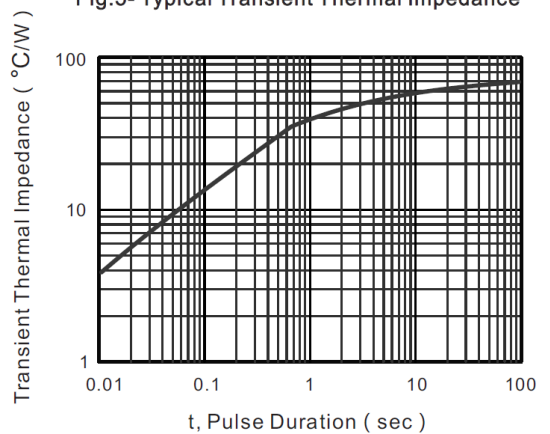


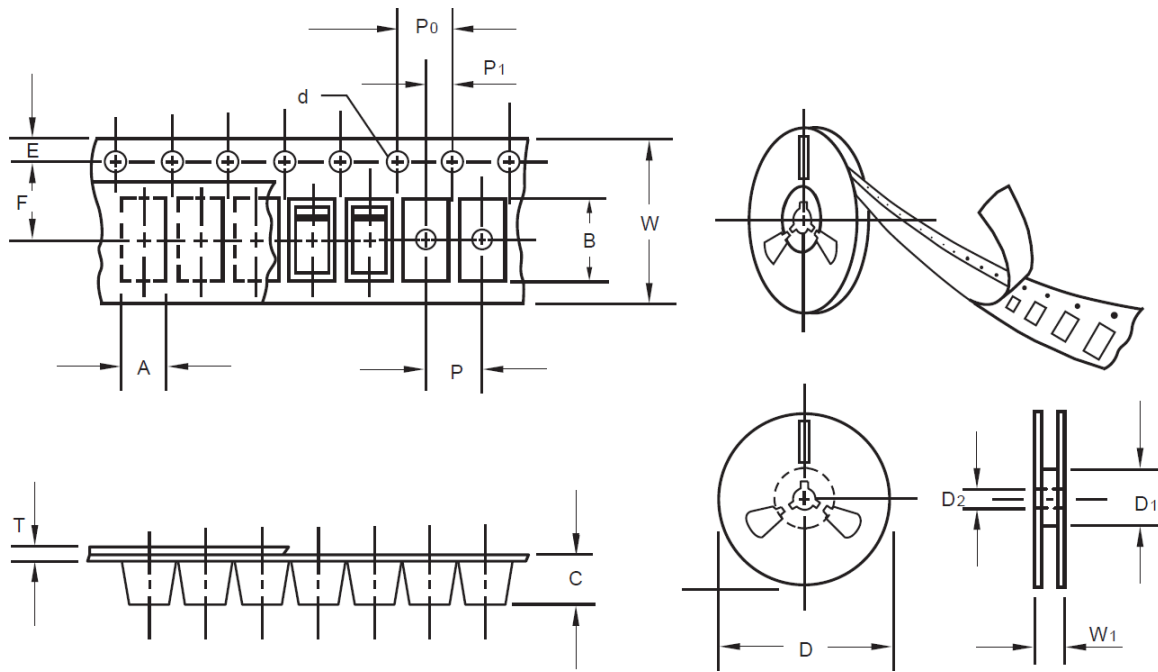
Fig.5- Typical Transient Thermal Impedance



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TAPE/REEL (Unit: mm)

All Devices are packed in accordance with EIA standard RS-481-A and specifications.

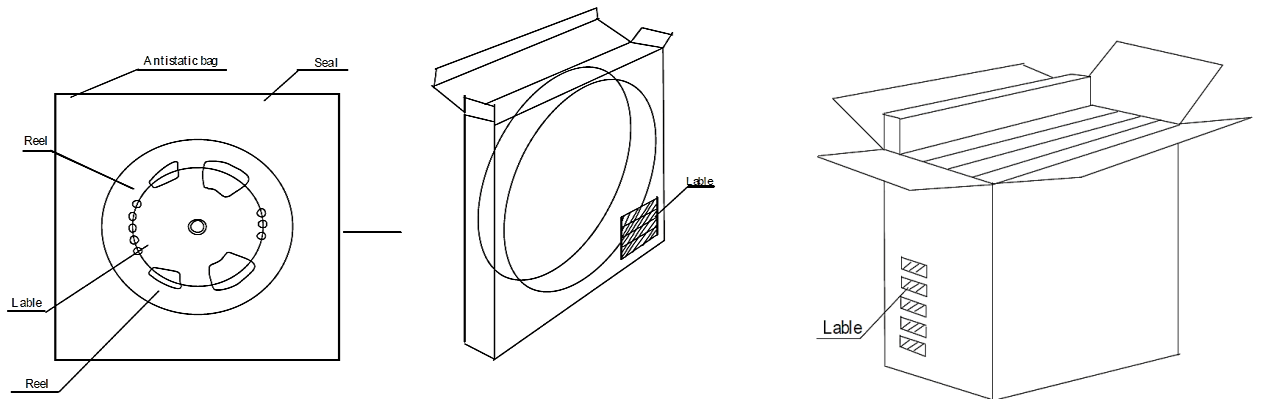


Item	Symbol	Tolerance	SMA/DO-214AC
Carrier width	A	0.1	2.8
Carrier Length	B	0.1	5.33
Carrier Depth	C	0.1	2.36
Sprocket hole	d	0.05	1.50
13" Reel outside diameter	D	-	-
13" Reel inner diameter	D1	-	-
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D1	Min.	62.00
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	5.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.0
Overall tape thickness	T	0.1	0.28
Tape width	W	0.3	12.00
Reel width	W1	1.0	18.0

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PACKAGE

Case Code	Reel Size	MPQ (pcs)	Component Spacing (mm)	Qty. Per Box (pcs)	Inner Box L*W*H (mm)	Reel Size (mm)	Carton size L*W*H (mm)	Qty. Per Carton (pcs)	G. W (kg)
SMAF	7"	2,000		4,000	183*155*183	178	370*370*380	80,000	11.0



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