NextGen Components,Inc.

PART CODE: SMAFSS110FS110

SPECIFICATION SHEET

SPECIFICATION SHEET NO.	P1105- SMAFSS110FS110
DATE	Nov. 05, 2022
REVISION	A1
DESCRIPITION	SMD High Efficiency Rectifier, 2 Pads, SMAF series, SS110F Type Reverse Voltage 100V Max. Forward Current 1.0A Max. Operating Temp. Range -50°C ~+150°C Package in Tape/Reel, 3000pcs/Reel RoHS/RoHS III compliant
CUSTOMER	
CUSTOMER PART NUMBER	
CROSS REF. PART NUMBER	
ORIGINAL PART NUMBER	MDD SS110F
PART CODE	SMAFSS110FS110

VENDOR APPROVE			
Issued/Checked/Approved	NextGen Components, Inc. Mandy Xu	NextGen Components, Inc. Ruby Zhang	NextGen Components, Inc. Jack Zhang
DATE: Nov. 05, 2022			

CUSTOMER APPROVE
DATE:

11/5/2022

NextGen Components,Inc.

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SMD HIGH EFFICIENCY RECTIFIER SMAF SERIES

MAIN FEATURE

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Low reverse leakage
- Built-in strain relief,
- High forward surge current capability
- Ultra fast switching for high efficiency
- High temperature soldering guaranteed: 250℃/ 10 seconds at terminals

APPLICATION

- For printed circuit board

RFQ
Request For Quotation

PART CODE GUIDE

SMAF	SS110F	S	110
1	2	3	4

1) **SMAF**: SMD High Efficiency Rectifier, 2 Pads, SMAF series

2) **SS110F**: Type code for original part number SS110F

3) **S**: Package code, Tape/reel, 3000pcs/reel.

4) **110:** Specification code for Reverse Voltage 100V Max. Forward Current 1.0A Max.

MORE ITEMS AVAILABLE

SMAFSS12F0S102	SMAFSS13F0S103	SMAFSS14F0S104	SMAFSS15F0S105	SMAFSS16F0S106
SMAFSS18F0S108	**SMAFSS110FS110**	SMAFSS1150S115	SMAFSS1200S120	
SMAFSS22F0S202	SMAFSS23F0S203	SMAFSS24F0S204	SMAFSS25F0S205	SMAFSS26F0S206
SMAFSS28F0S208	SMAFSS210FS210	SMAFSS2150S215	SMAFSS2200S220	
SMAFSS32F0S302	SMAFSS33F0S303	SMAFSS34F0S304	SMAFSS35F0S305	SMAFSS36F0S306
SMAFSS38F0S308	SMAFSS310FS310	SMAFSS3150S315	SMAFSS3200S320	
SMAFSS52F0S502	SMAFSS53F0S503	SMAFSS54F0S504	SMAFSS55F0S505	SMAFSS56F0S506
SMAFSS58F0S508	SMAFSS510FS510	SMAFSS5150S515	SMAFSS5200S520	

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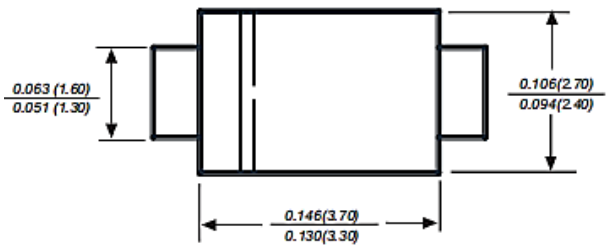
DIMENSION (Unit: Inch/mm)

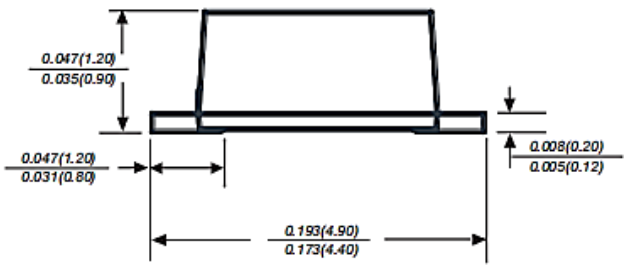
Image for reference



Marking: SS110F

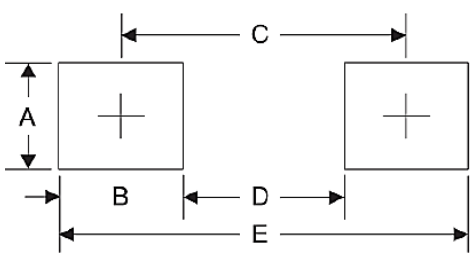
SMAF







Recommend Pad Layout



Symbol	Unit (Inch)	Unit (mm)
A	0.071	1.80
B	0.063	1.60
C	0.150	3.80
D	0.087	2.21
E	0.213	5.40

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SMD HIGH EFFICIENCY RECTIFIER SMAF SERIES

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	0.00095 Ounce, 0.027 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= 55°C		I_{AV}			1.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)		I_{FSM}		25		A
Instantaneous forward voltage at 1.0A		V_F			0.85	Volts
DC reverse current at rated DC blocking voltage	**TA=25℃**	I_R			0.2	mA
	TA=100℃				5.0	
Junction capacitance (Note 3)		C_J		80		pF
Thermal resistance (Note 4)		R_{QJA}		95		°C/W
Operating junction temperature range		T_J	-55		+150	°C
Storage temperature range		T_{STG}	-55		+150	°C

Note

1. 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%.
2. Reverse recovery condition IF=0.5A,IR=1.0A,Irr=0.25A
3. Measured at 1.0MHz and applied reverse voltage of 4.0Voltage
4. P.C.B. mounted with 2.0x2.0”(5.0x5.0cm) copper pad areas.

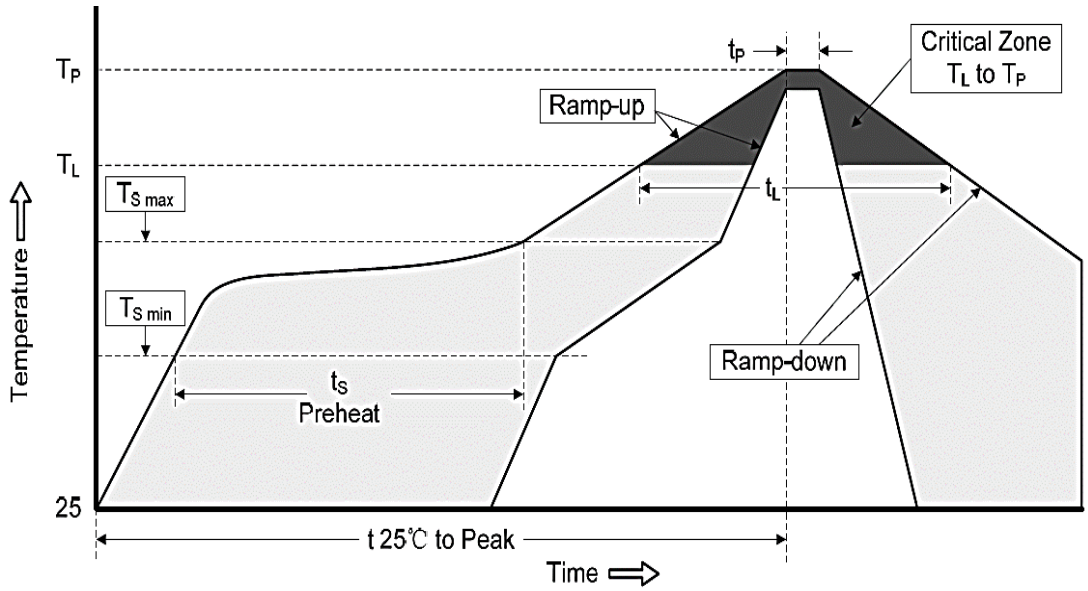
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RELIABILITY

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	T_A=100°C for 1000 Hours at V_R=80% Rated V_R	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, T_A=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	T_A=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)



Profile Feature		Pb-Free Assembly
Average Ramp-up Rate (Ts Max to Tp)		3℃/second Max
Preheat	**Temperature Min (Ts Min.)**	150℃
	Temperature Max (Ts Max.)	200℃
	Time (ts Min. to ts Max.)	60 ~ 180 seconds
Time maintained above	**Temperature (TL)**	217℃
	Time (tL)	60 ~ 150 seconds
Peak/Classification Temperature (Tp)		260 ℃
Time within 5℃ of actual Peak Temperature (tp)		20 ~ 40 seconds
Ramp-down rate		6 ℃ /Second Max.
Time 25 ℃ to Peak Temperature		8 minutes Max.
Suggest reflow times		3 Times Max.

RATINGS AND CHARACTERISTIC CURVES (For Reference Only)

FIG. 1- FORWARD CURRENT DERATING CURVE

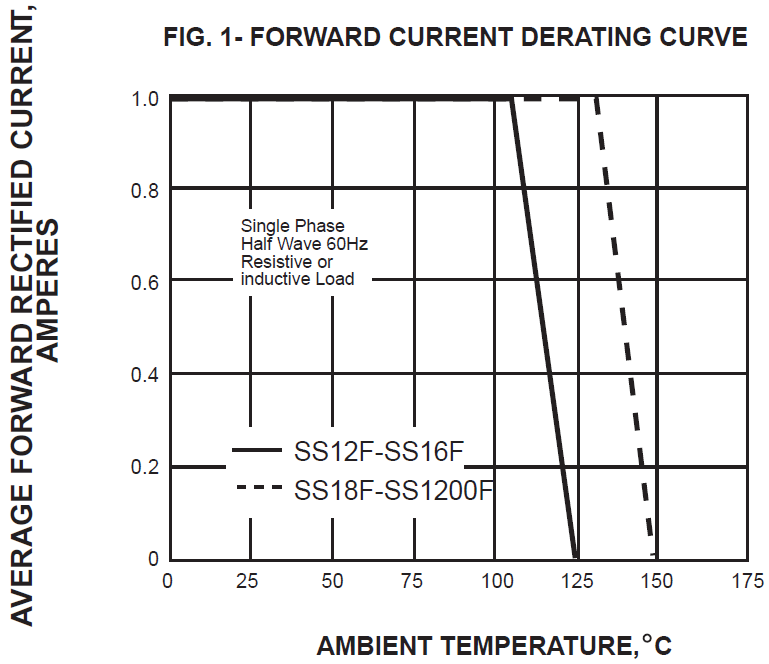
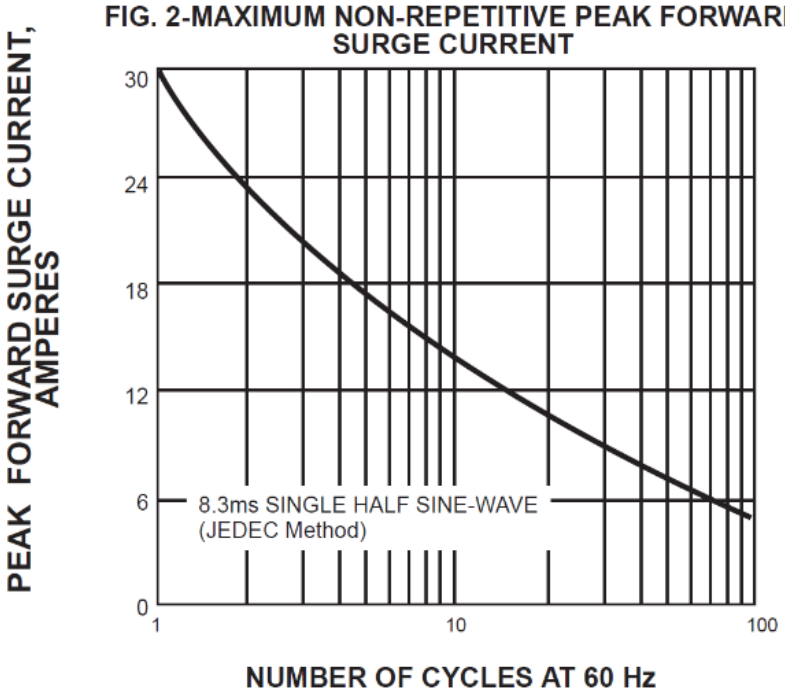


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



RATINGS AND CHARACTERISTIC CURVES (For Reference Only)

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

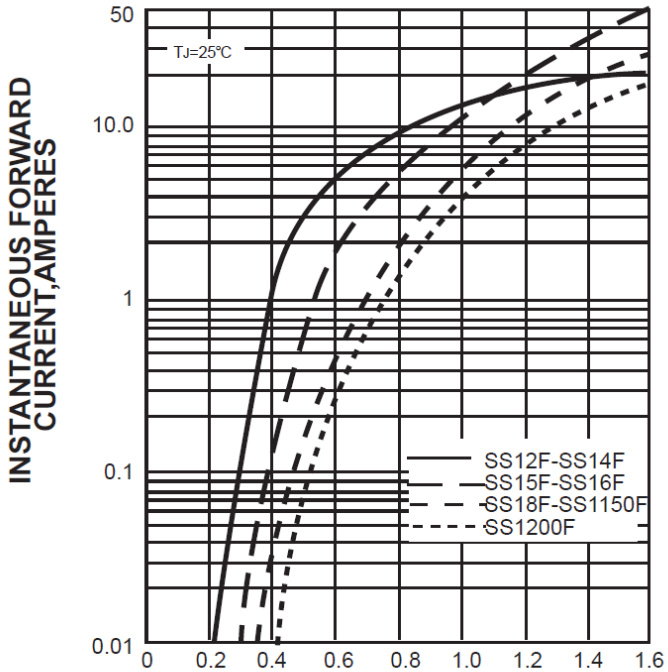
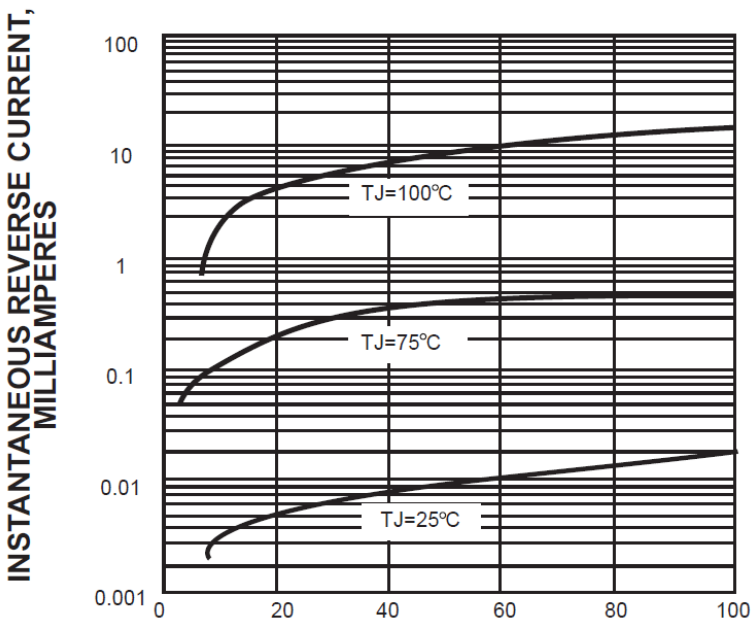


FIG. 4-TYPICAL REVERSE CHARACTERISTICS



RATINGS AND CHARACTERISTIC CURVES (For Reference Only)

FIG. 5-TYPICAL JUNCTION CAPACITANCE

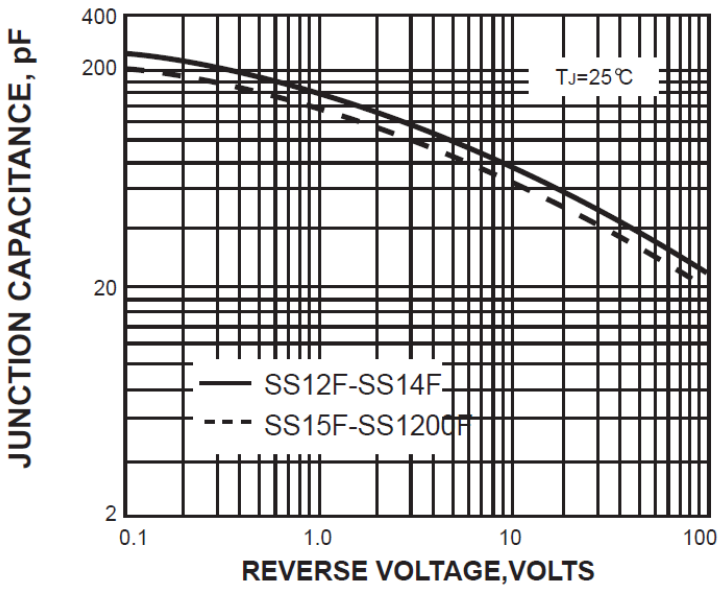
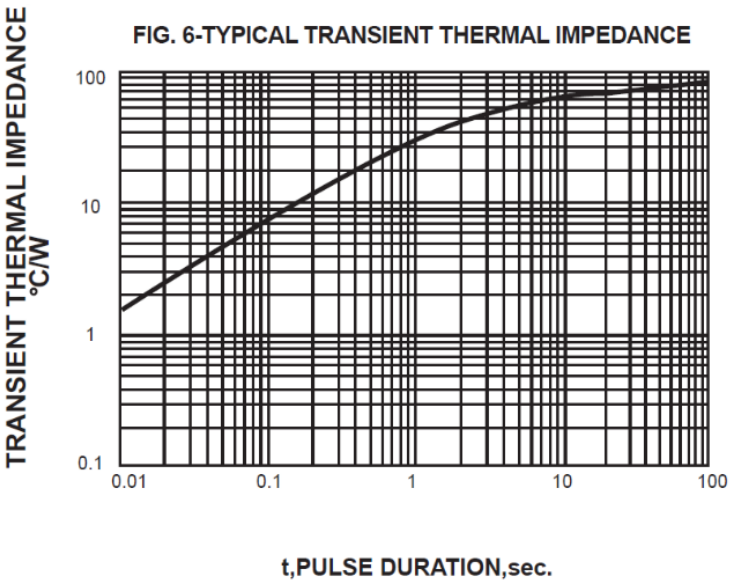


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



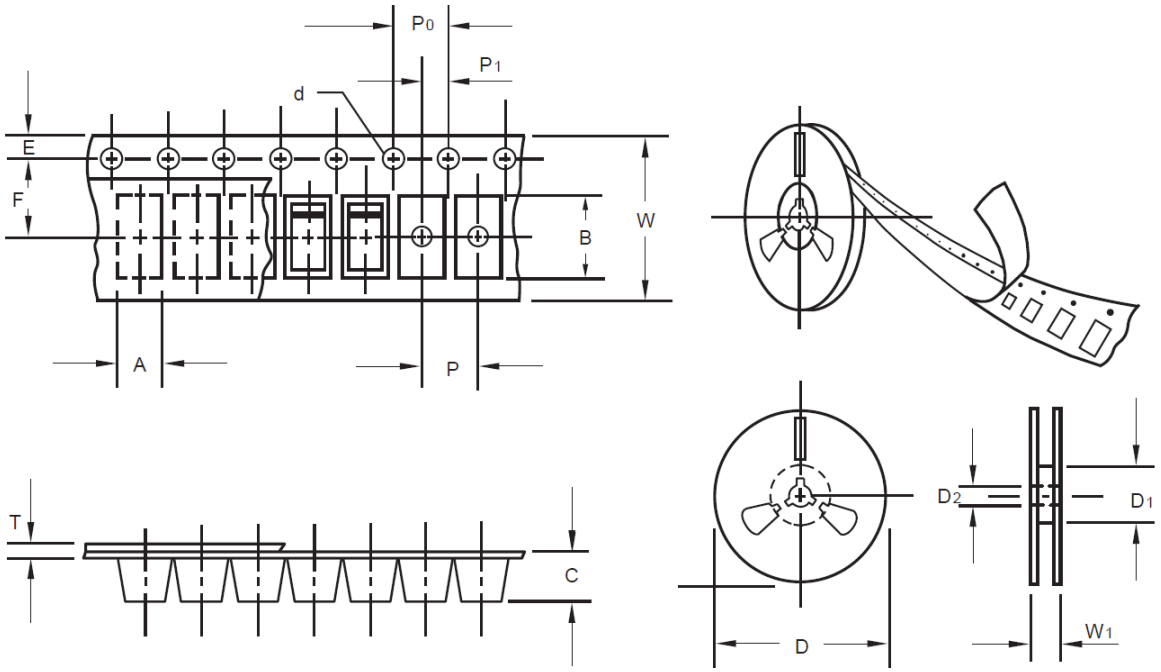
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TAPE/REEL (Unit: mm)

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



Item	Symbol	Tolerance	SMAF
Carrier width	A	0.1	2.80
Carrier Length	B	0.1	4.75
Carrier Depth	C	0.1	1.42
Sprocket hole	d	0.05	1.50
7”Reel outside diameter	D	2.0	178.00
7”Reel inner diameter	D1	Min.	54.40
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	5.05
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.30
Tape width	W	0.3	8.00
Reel width	W1	1.0	12.30

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SMD HIGH EFFICIENCY RECTIFIER SMAF SERIES

PACKAGE For Reference

Case Code	SMAF
Reel Size	7”
Reel Size	178 mm
MPQ/Reel	3000 pcs
Qty. /Box	6000 pcs
G.W/Box	1 lbs

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