NextGen Components,Inc.

PART CODE: **SS14F00000S040**

SPECIFICATION SHEET

SPECIFICATION SHEET NO.	R0512- SS14F00000S040	
DATE	May 12, 2024	
REVISION	A1	Updated With Most Recent Data
DESCRIPTION AND MAIN PARAMETRICS	SMD Schottky Barrier Rectifier 2 Pads, Case SMAF SS1 Series, Repetitive Peak Reverse Voltage 40V Max. Average Forward Rectified Current 1.0A Max. Operating Junction Temperature Range: -55°C ~+125°C Package in Tape/Reel, 3000pcs/Reel RoHS III/REACH Compliant and Halogen Free (HF)	
CUSTOMER		
CUSTOMER PART NO.		
CROSS REF. PART NO.		
ORIGINAL MFG/PART NO.	MDD Diodes/SS14F	
PART CODE	SS14F00000S040	

VENDOR APPROVE
Issued/Checked/Approved NextGen Components, Inc. Mandy Xu NextGen Components, Inc. Ruby Zhang NextGen Components, Inc. Jack Zhang
DATE: May 12, 2024

CUSTOMER APPROVE
DATE:

NextGen Components, Inc. sales@NextGenComponent.com www.NextGenComponent.com

SMD SCHOTTKY BARRIER RECTIFIER SS1 SERIES CASE SMAF

MAIN FEATURE

- The Plastic Package Carries Underwriters Laboratory Flammability Classification 94V-0
- Low Power Loss and High Efficiency
- Metal Silicon Junction and Majority Carrier Conduction
- Built-in Strain Relief and Ideal For Automated Placement
- High Forward Surge Current Capability
- High Temperature Soldering Guaranteed: 250°C/10 Seconds At Terminals
- Surface Mount Package Ideally Suited for Automatic Insertion
- REACH/RoHS III Complaint and Halogen Free
- Cross Main Competitor Parts in Market

APPLICATION

- For SMD application

ELECTRICAL CHARACTERISTICS

- See Page 5~ Page 6 For Different Part Code

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HOW TO ORDER

- Please Follow Up Part Code Guide And Indicate Pat Code When You Order Or RFQ For Custom Specification .

PART CODE GUIDE

RFQ
Request For Quotation

CODE	NAME	KEY SPECIFICATION OPTION
SS1	Product Series Code	SMD Schottky Barrier Rectifier, Forward Current 1.0A
4	Repetitive Peak Reverse Voltage Code	2: 20V Max. ; 3: 30V Max. ; 4: 40V Max.; 5: 50V Max.; 6: 60V Max.; 8: 80V Max.; 10: 100V Max.; 150: 150V Max.; 200: 200V Max
F0	Case Code	A0: Case DO-214AC/SMA; B0: Case DO-214AA/SMB; BF: Case SMBF; C0: Case SMC/DO-214AB ; F0: Case SMAF; W0: Case SMF/SOD-123FL
0000S	Internal Control Code	Custom letter A~Z, a-z or Digits (0-9)
040	DC Blocking Voltage Code	020: 20V Max. ; 030: 30V Max. ; 040: 40V Max.; 050: 50V Max.; 060: 60V Max.; 080: 80V Max.; 100: 100V Max.; 150: 150V Max.; 200: 200V Max

SMD SCHOTTKY BARRIER RECTIFIER SS1 SERIES CASE SMAF

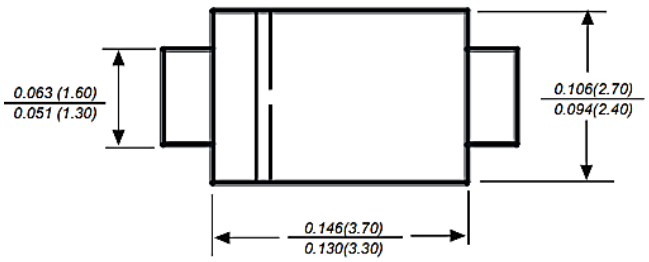
DIMENSION (Unit: Inch/mm)

Image for reference

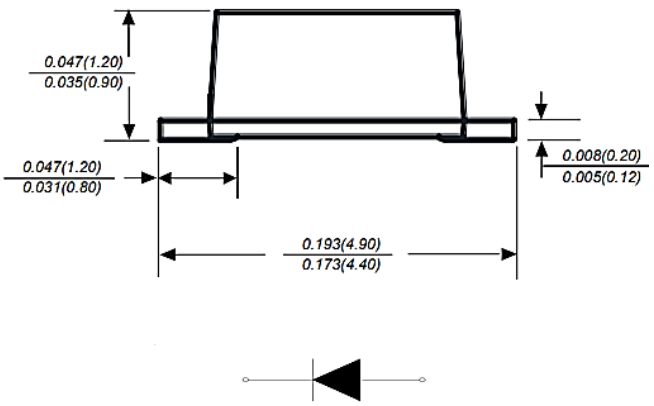
Marking:

See Page -6 Marking List

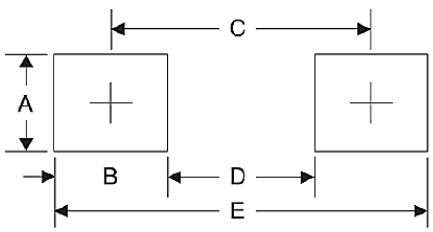
For different Part code



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	2.20
E	0.213	5.40

SMD SCHOTTKY BARRIER RECTIFIER SS1 SERIES CASE SMAF

MECHANICAL DATA

CASE	TERMINALS	POLARITY	MOUNTING POSITION	WEIGHT PER PIECE
JEDEC SMAF Molded Plastic Body	Solder plated, Solderable per MIL-STD-750, Method 2026	Polarity Symbol Marking On Case	Any	0.00095 Ounce, 0.02700 Grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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%.

PARAMETER		SYMBOLS	VALUE	UNITS
Maximum Average Forward Rectified Current		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
Typical Thermal Resistance (Note 2)		$R_{\theta JA}$	95	°C/W
Operating Junction Temperature Range	@ V_{RRM} 20V ~50V	T_J	-55 to +125	°C
	@ V_{RRM} 60V ~200V	T_J	-55 to +150	°C
Storage Temperature Range		T_{STG}	-55 to +150	°C

Note:

1. Measured at 1MHz And Applied Reverse Voltage Of 4.0V D.C
2. P.C.B. Mounted With 0.20”x0.20”(5.08 x 5.08 mm) Copper Pad Areas

SMD SCHOTTKY BARRIER RECTIFIER SS1 SERIES CASE SMAF

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS FOR DIFFERENT PART CODE

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%.

PART CODE	Max. Repetitive Peak Reverse Voltage	Max. RMS Voltage	Max. DC Blocking Voltage	Max. Inst. Forward Voltage @ 1.0A	Maximum DC Reverse Current At Rated DC Blocking Voltage		Typical Junction Cap. (Note 1)	Marking List
					@ 25 °C	@ 100 °C		
	V_{RRM}	V_{RMS}	V_{DC}	V_F	I_R		C_J	
	V	V	V	V	mA		pF	
SS12F00000S020	20	14	20	0.55	0.3	10	110	SS12F
SS13F00000S030	30	21	30	0.55	0.3	10	110	SS13F
SS14F00000S040	40	28	40	0.55	0.3	10	110	SS14F
SS15F00000S050	50	35	50	0.70	0.3	10	80	SS15F
SS16F00000S060	60	42	60	0.70	0.3	10	80	SS16F
SS18F00000S080	80	56	80	0.85	0.2	5.0	80	SS18F
SS110F0000S100	100	70	100	0.85	0.2	5.0	80	SS110F
SS1150F000S150	150	105	150	0.90	0.1	2.0	80	SS1150F
SS1200F000S200	200	140	200	0.90	0.1	2.0	80	SS1200F

Note:

1. Measured at 1MHz And Applied Reverse Voltage Of 4.0V D.C
2. P.C.B. mounted with 0.2”x0.2”(5.08 x 5.08 mm) Copper Pad Areas

SMD SCHOTTKY BARRIER RECTIFIER SS1 SERIES CASE SMAF

RATINGS AND CHARACTERISTIC CURVES (For Reference Only)

Fig.1 Forward Current Derating Curve

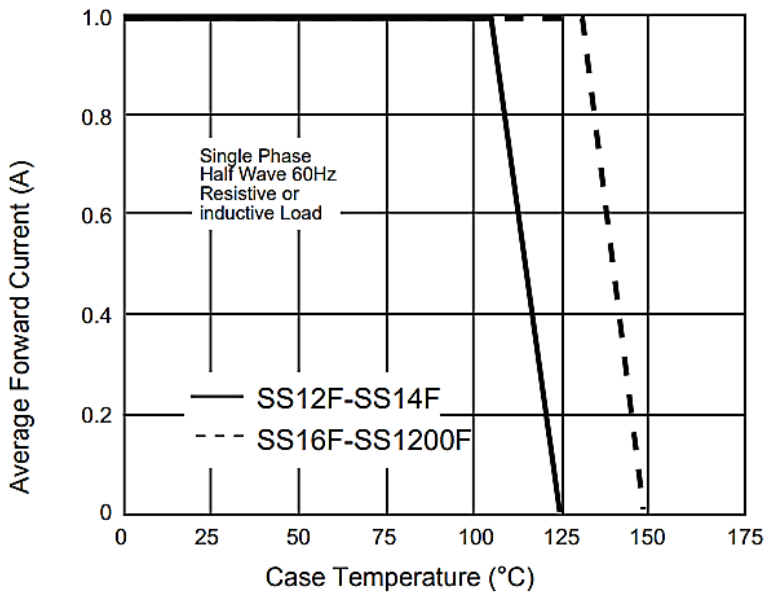
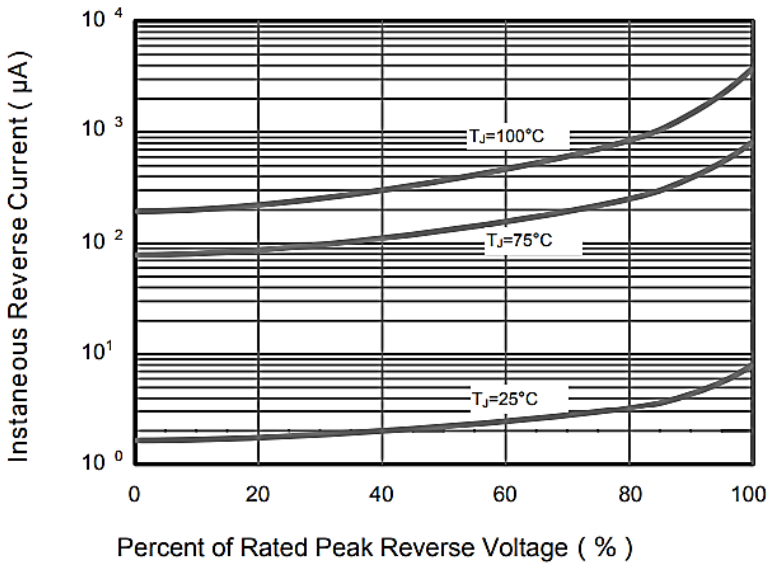


Fig.2 Typical Reverse Characteristics



SMD SCHOTTKY BARRIER RECTIFIER SS1 SERIES CASE SMAF

RATINGS AND CHARACTERISTIC CURVES (For Reference Only)

Fig.3 Typical Forward Characteristic

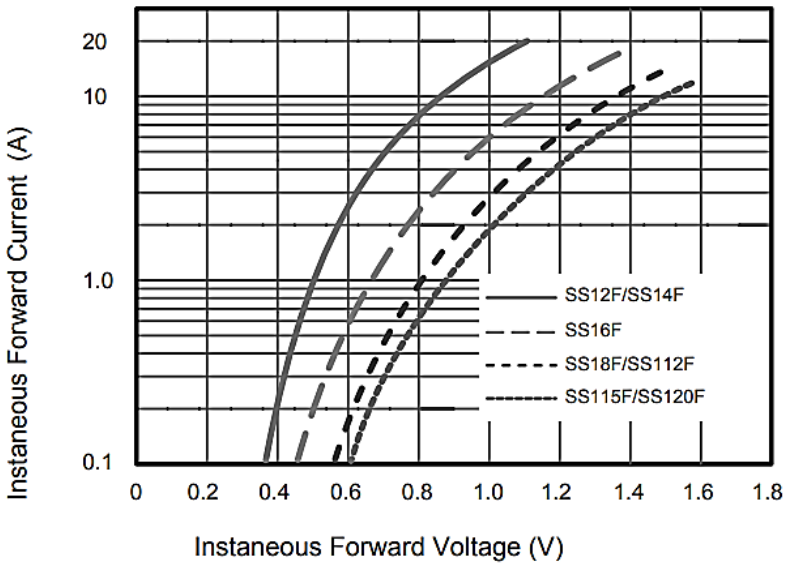
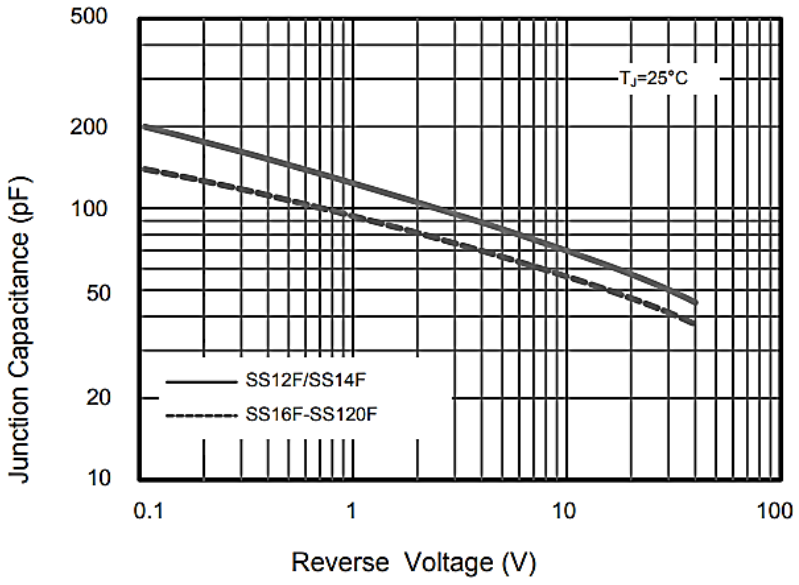


Fig.4 Typical Junction Capacitance



RATINGS AND CHARACTERISTIC CURVES (For Reference Only)

Fig.5 Maximum Non-Repetitive Peak Forward Surage Current

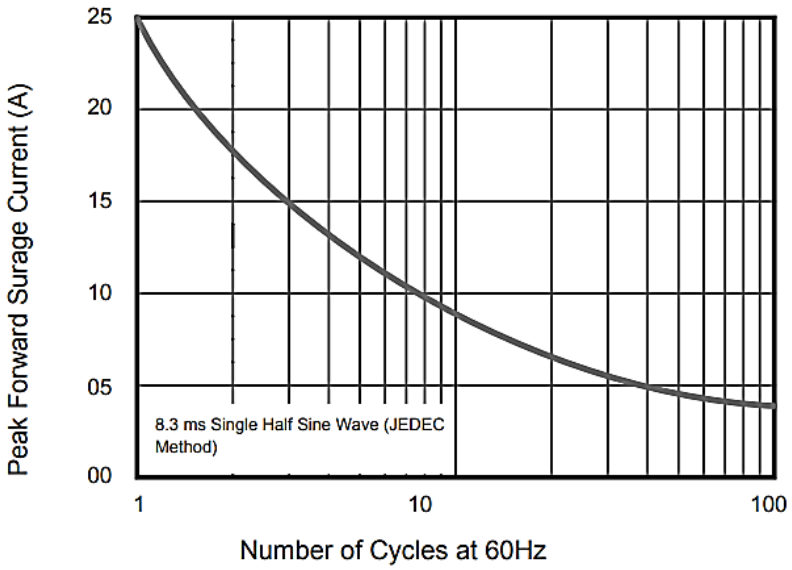
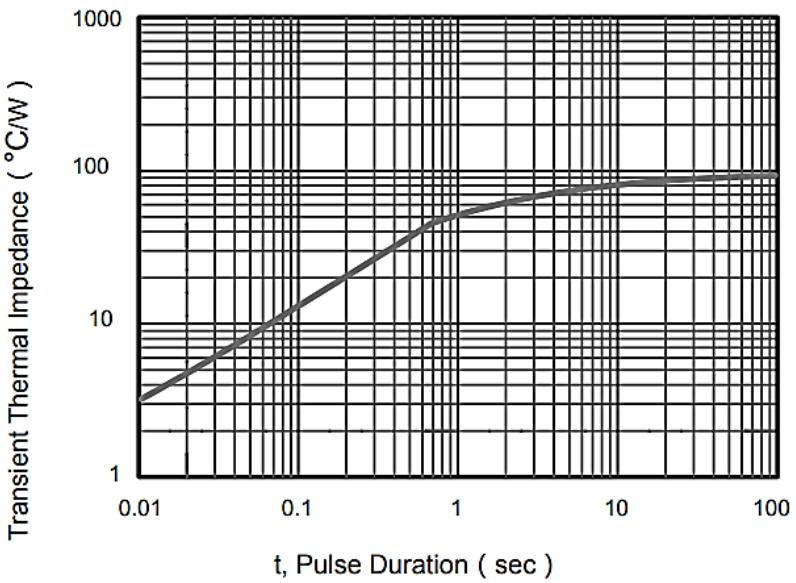


Fig.6- Typical Transient Thermal Impedance



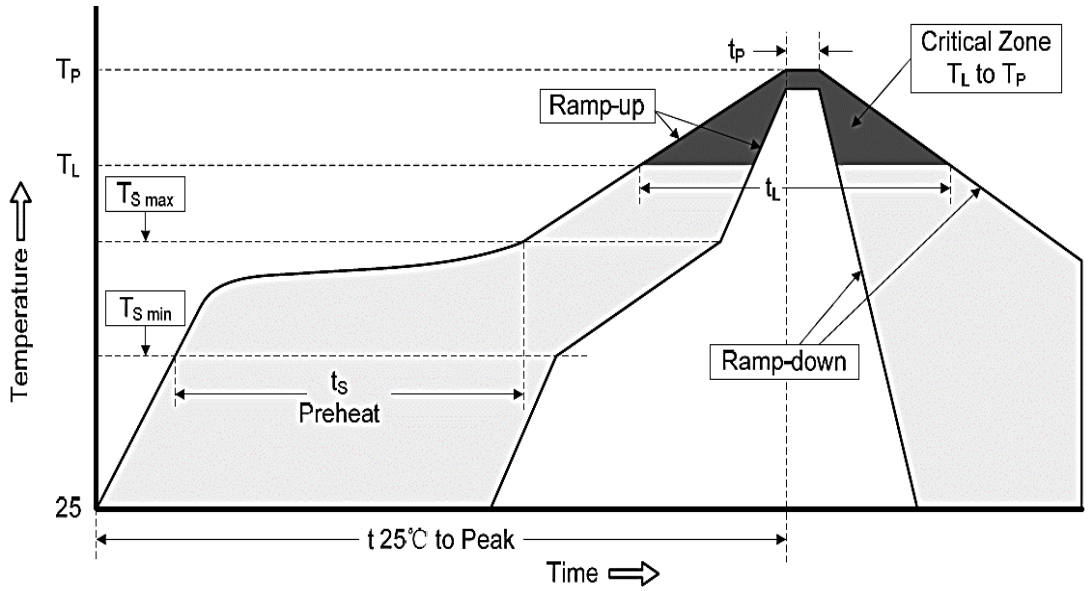
SMD SCHOTTKY BARRIER RECTIFIER SS1 SERIES CASE SMAF

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

SMD SCHOTTKY BARRIER RECTIFIER SS1 SERIES CASE SMAF

SUGGESTED REFLOW PROFILE - For Reference Only

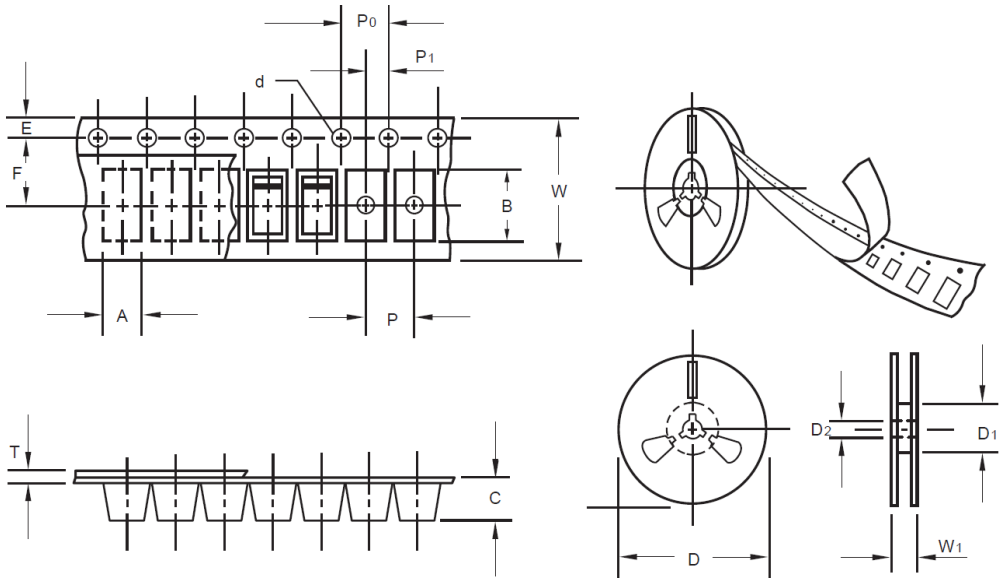


PROFILE FEATURE		PB-FREE ASSEMBLY
Average Ramp-up Rate (Ts Max to Tp)		3℃/second Max
Preheat	Temperature Min (Ts Min.)	150℃
	Temperature Max (Ts Max.)	200℃
	Time (ts Min. to ts Max.)	60 ~ 180 seconds
Time maintained above	Temperature (TL)	217℃
	Time (tL)	60 ~ 150 seconds
Peak/Classification Temperature (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.

SMD SCHOTTKY BARRIER RECTIFIER SS1 SERIES CASE SMAF

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	5.50
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
MPQ/Reel	3000pcs/Reel		

IMPORTANT NOTES AND DISCLAIMER

1. ROHS COMPLIANCE: The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU RoHS Directive (EU) 2015/863 EC (RoHS3). RoHS Test Report for this product can be obtained can be obtained at Download Center.
2. REACH COMPLIANCE: REACH substances of high concern (SVHCs) information is available for this product. Since the European Chemical Agency (ECHA) has published notice of their intent to frequently revise the SVHC listing for the foreseeable future, REACH Test Report for this product can be obtained can be obtained at Download Center.
3. All Product parametric performance is indicated in the Electrical Characteristics for the listed herein test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.
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