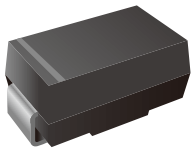
领晨科技
LEADING-TECH

SS12 THRU SS120

Surface Mount Schottky Barrier Rectifier

Features



- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Metal silicon junction,majority carrier conduction
- Low power loss,high efficiency
- Built-in strain relief,ideal for automated placement
- High forward surge current capability
- Lead free in comply with EU RoHS 2011/65/EU directives

Mechanical Data

- Case:SMA
- Terminals: leads solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any

Ordering Information

Part Number	Shipping	Reel
SS12 THRU SS120-TR5	5000PCS Tape&Reel	13 inchs
SS12 THRU SS120-TR7K5	7500PCS Tape&Reel	13 inchs

Maximum Ratings and Electrical Characteristics

Ratings at 25℃ ambient temperature unless otherwise specified.
Single phase half-wave 60Hz,resistive or inductive load,for capacitive load current derate by 20%.

Parameters	Symbol	SS12	SS14	SS16	SS18	SS110	SS112	SS115	SS120	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	20	40	60	80	100	120	150	200	V
Maximum RMS voltage	V_{RMS}	14	28	42	56	70	84	105	140	V
Maximum DC blocking voltage	V_{DC}	20	40	60	80	100	120	150	200	V
Maximum average forward rectified current at T_L(see fig.1)	$I_{(AV)}$	1.0								A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30.0								A
Maximum instantaneous forward voltage at 1.0A	V_F	0.55		0.70	0.85			0.90		V
Maximum DC reverse current T_A=25℃ at rated DC blocking voltage T_A=100℃	I_R	0.3 10			0.2 5			0.1 2		mA
Typical junction capacitance (Note1)	C_J	110		80						pF
Typical thermal resistance (Note2)	$R_{\theta JA}$	90								°C/W
Operating junction temperature range	T_J	-55 to +125								°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 2.0" x 2.0"(5.0cm x 5.0cm) copper pad areas.

Characteristics Curves

Fig.1 Forward Current Derating Curve

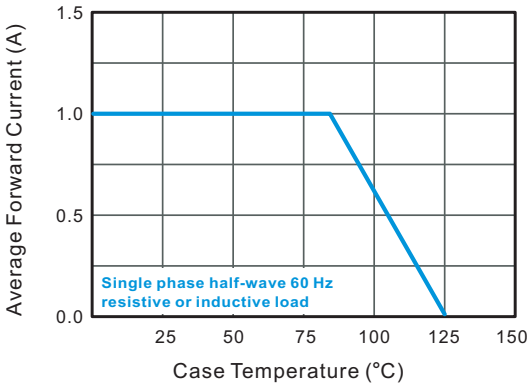


Fig.2 Typical Reverse Characteristics

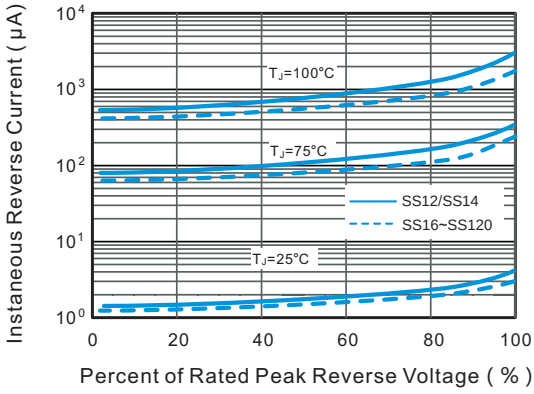


Fig.3 Typical Forward Characteristic

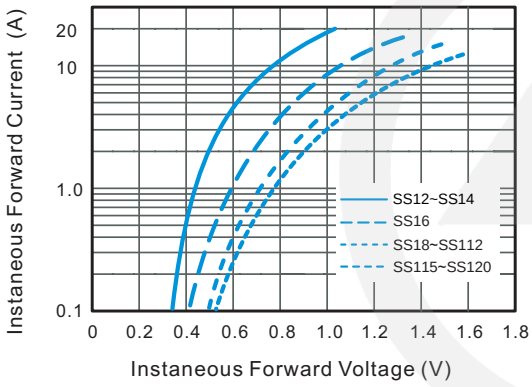


Fig.4 Typical Junction Capacitance

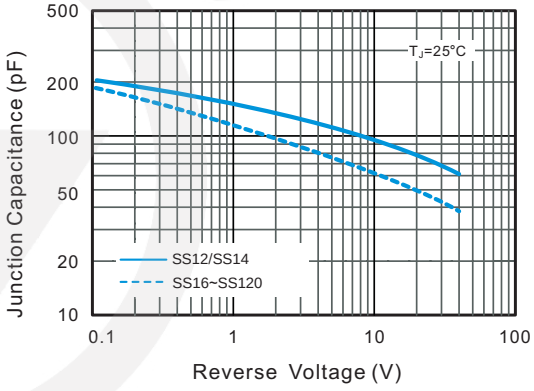


Fig.5 Maximum Non-Repetitive Peak Forward Surage Current

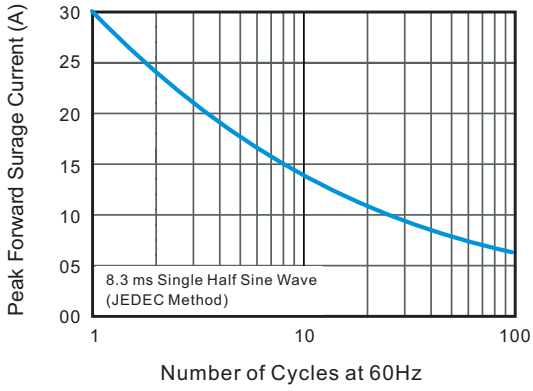
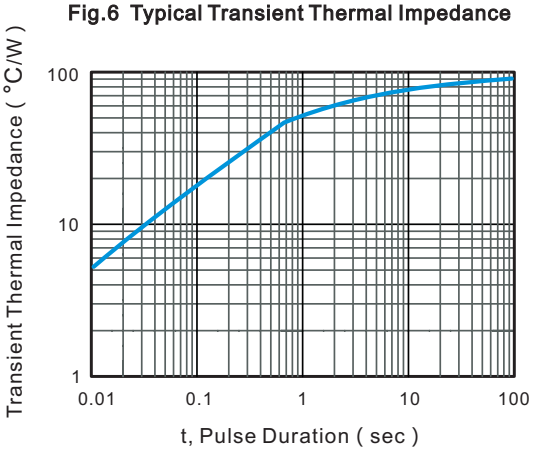
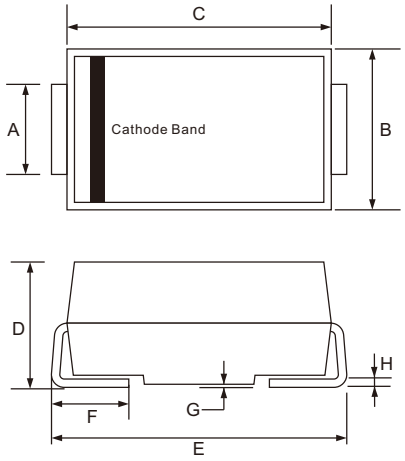


Fig.6 Typical Transient Thermal Impedance



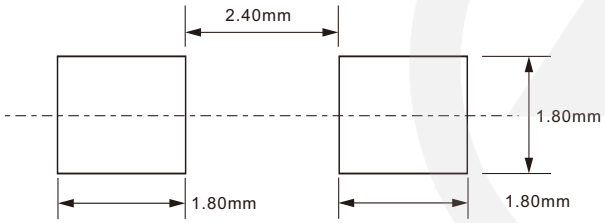
SMA Package Outline



Unit : mm

SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	1.25	1.65
B	2.30	2.79
C	4.00	4.75
D	1.90	2.50
E	4.70	5.28
F	0.76	1.52
G	0.203 TYP.	
H	0.15	0.31

SMA Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm
3.The pad layout is for reference purpose only.

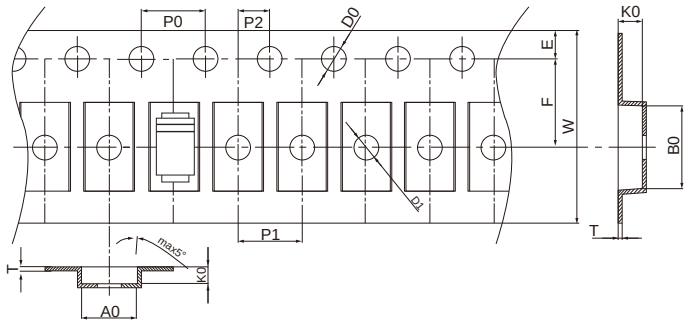
Marking

Type number	Marking code
SS12	SS12
SS14	SS14
SS16	SS16
SS18	SS18
SS110	S110 or SS110
SS112	SS112
SS115	S115 or SS115
SS120	SS120

SS12 THRU SS120

Carrier Tape Dimensions

Unit：mm

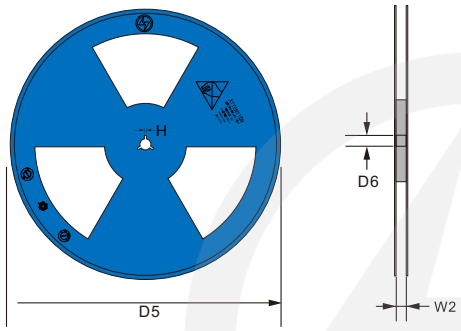


Symbol	Spec	Symbol	Spec
A0	2.70±0.10	D0	1.55±0.05
B0	5.33±0.10	D1	1.55±0.05
K0	2.35±0.10	T	0.20±0.03
P0	4.00±0.10	E	1.75±0.10
P1	4.00±0.10	F	5.50±0.05
P2	2.00±0.10	W	12.0±0.30

Reel Dimensions

Unit：mm

13” Reel

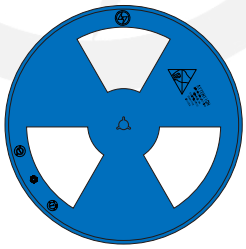


D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	12±2.0
Quantity: 5000/7500PCS	

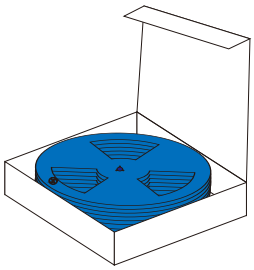
Packaging

SMA

5000PCS/Reel
7500PCS/Reel



5Reel/Inner Box
25KPCS/Inner Box
37.5KPCS/Inner Box



Dim(Unit:mm)
340mm*340mm*85mm

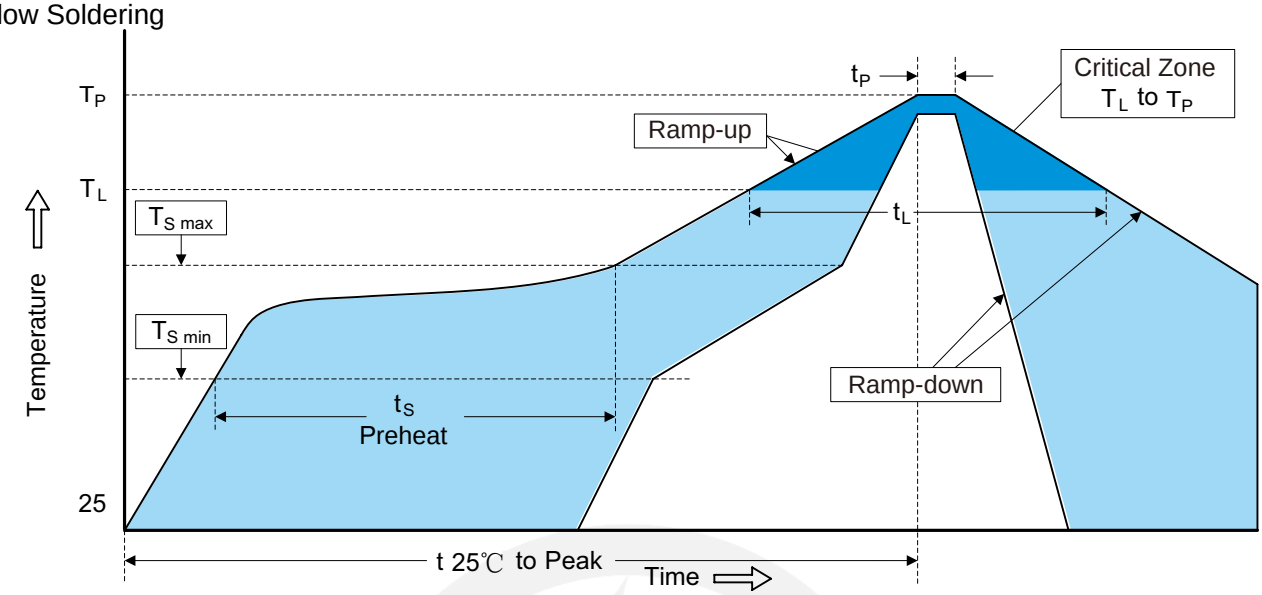
4 Boxs per carton
100KPCS per carton
150KPCS per carton

Dim(Unit:mm)
360mm*360mm*355mm

13 inchs Reel

Recommended Soldering Conditions

Reflow Soldering



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3℃/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_S)	 150℃ 200℃ 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	 3℃/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	 217℃ 60-150 seconds
Peak Temperature (T_P)	260℃
Time within 5℃ of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ to Peak Temperature	8 minutes max.

Important Notice and Disclaimer

Leading-Tech reverses the right to make changes to this document and its products and specifications at any time without notice.

Customers should obtain and confirm the latest product information and specifications before final design,purchase or use.

Leading-Tech makes no warranty,representation or guarantee regarding the suitability of its products for any particular purpose,not does Leading-Tech assume any liability for application assistance or customer product design.

Leading-tech does not warrant or accept any liability with products which are purchase or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of Leading-Tech.

Leading-Tech products are not authorized for use as critical components in life support devices or systems without express written approval of Leading-tech.

Version Update Information

Series NO.	Enactment/Revision Date	Effective Date	Version	Revision content	Revision Reason	Revision Person	Note
01	2024.9.27	2024.9.27	3.0	New File	/	Ding	
02	2025.06.11	2025.06.11	3.1	Update packaging information	/	Ding	