

SS54A THRU SS520A
SCHOTTKY BARRIER RECTIFIERS



VOLTAGE: 40~200 Volts	CURRENT: 5.0 Amperes	DO-214AA(SMB)	Marking and Polarity
------------------------------	-----------------------------	---------------	----------------------

FEATURES

- Low Forward Voltage Drop for high efficiency
- Low leakage current for high reliability
- High forward surge capability for high reliability

MECHANICAL DATA

- **Terminals:** Plated Leads Solderable per MIL-STD-202, Method 208
- **Mounting Position:** Any
- **Lead Free:** Lead Free Finish, RoHS Compliant
- **Weight:** App. 0.063 grams (0.0022 ounce)

TYPICAL APPLICATIONS

- For use in high frequency inverters ,
DC/DC converters, LED driver etc. applications



Remark:

- ①. NH=niuhang trademark
- ②. FF=Product line, According to actual changes;
YWW=Periodic code, According to actual changes;
- ③. SS5xxA=Modle, xxx=4, 45, 6, 8, 10, 15, 20
- ④. White band denotes cathode

Maximum Ratings (Ratings at 25°C ambient temperature unless otherwise specified)

Parameter	Symbol	SS54A	SS545A	SS56A	SS58A	SS510A	SS515A	SS520A	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	40	45	60	80	100	150	200	V
Maximum RMS voltage	V_{RMS}	28	32	42	56	70	105	140	V
Maximum DC blocking voltage	V_{DC}	40	45	60	80	100	150	200	V
Maximum average forward rectified current (see fig.1)	$I_{F(AV)}$	5.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I_{FSM}	125							A
Current Squared Time Per Diode (t<8.3ms)	i^2t	64.84							A ² sec

Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified)

Parameter	Test Conditions		Symbol	SS54A	SS545A	SS56A	SS58A	SS510A	SS515A	SS520A	Unit
	Ta=25°C	IF= 5.0 A									
Maximum Forward Voltage(Note 1)	Ta=25°C	IF= 5.0 A	V_F	0.55	0.70	0.80	0.90	v			
Maximum instantaneous reverse current at rated DC blocking voltage (Note 1)	Ta=25°C	VR= V_{RRM}	I_{RRM}	100	80	50	10	uA			
	Ta=125°C	VR= 80%* V_{RRM}		10	8	5	3		mA		
Typical junction capacitance	4V, 1MHz		C_J	250	200	150	100	pF			

Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified)

Parameter	Symbol	SS54A	SS545A	SS56A	SS58A	SS510A	SS515A	SS520A	Unit
Operating junction and Storage temperature range	T_J	-55 to 125			-55 to 150		-55 to 175		°C
Storage temperature range	T_{STG}	-55 to 125			-55 to 150		-55 to 175		
Typical thermal resistance (Note 2)	$R_{\theta JA}$	55					°C/W		
	$R_{\theta JC}$	25							

- Note:**
1. Pulse width < 300 uS, Duty cycle < 2%
 2. Mounted on P.C.B. with 0.3" x 0.3" (7.62 mm x 7.62 mm) copper pad areas

SS54A THRU SS520A

SCHOTTKY BARRIER RECTIFIERS



RATING AND CHARACTERISTIC CURVES

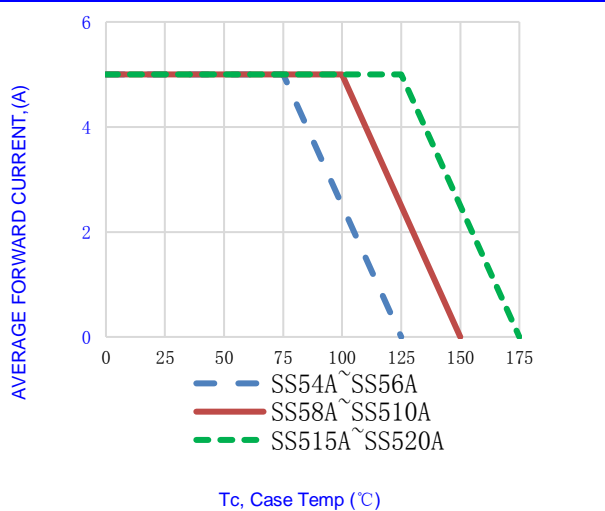


Fig.1-FORWARD CURRENT DERATING CURVE

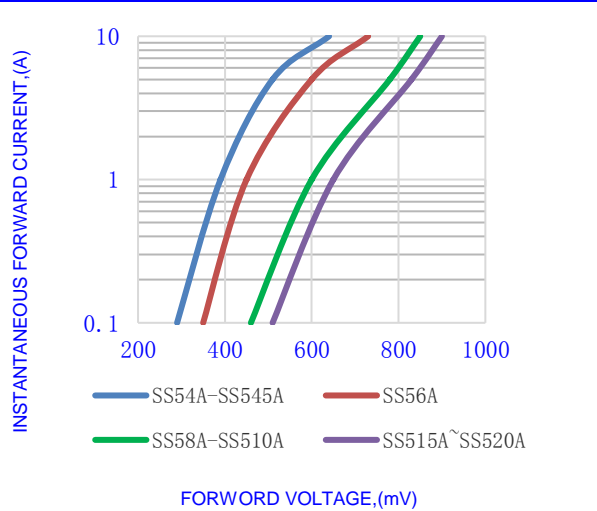


Fig.2- TYPICAL INSTANTANEOUS FORWARD

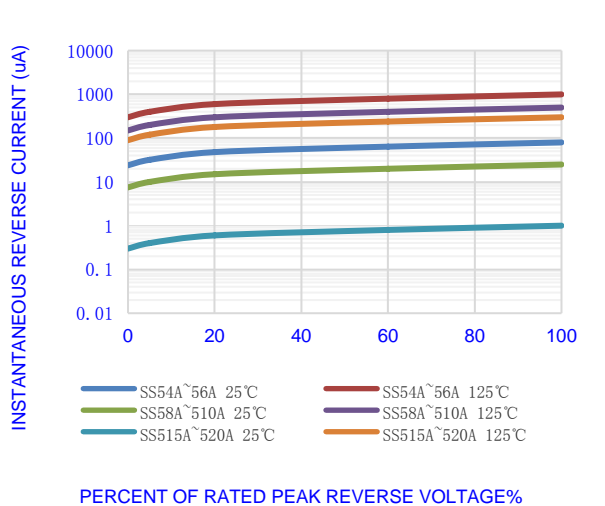


Fig.3- TYPICAL REVERSE CHARACTERISTICS

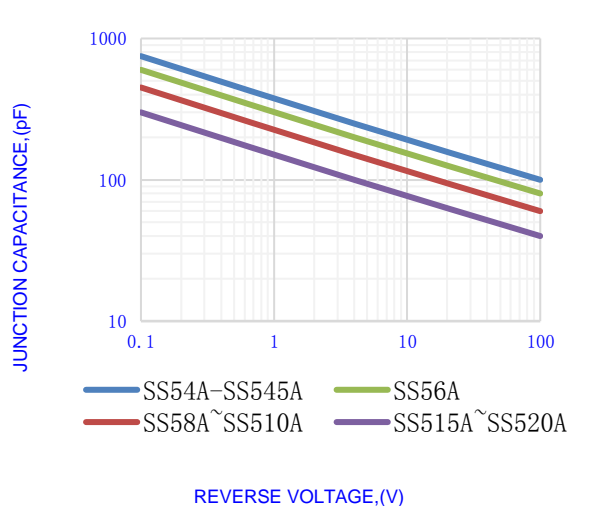


Fig.4-TYPICAL JUNCTION CAPACITANCE

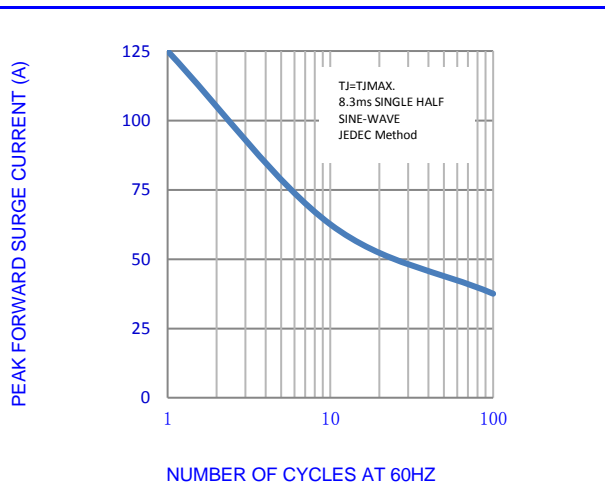


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

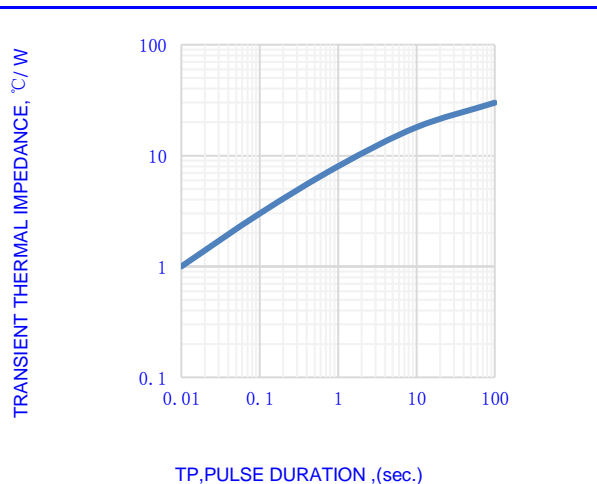


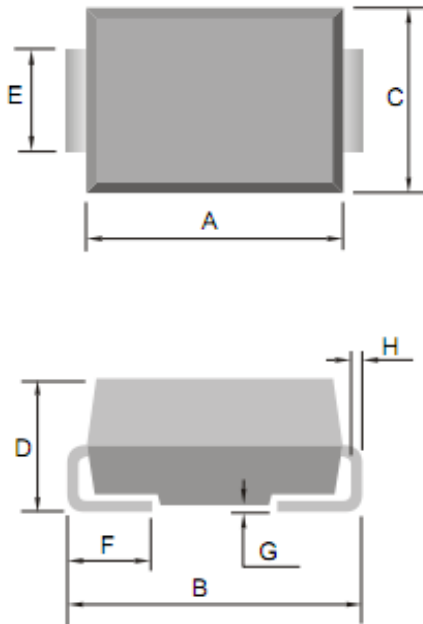
FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

SS54A THRU SS520A
SCHOTTKY BARRIER RECTIFIERS



OUTLINE DRAWINGS

DO-214AA(SMB)

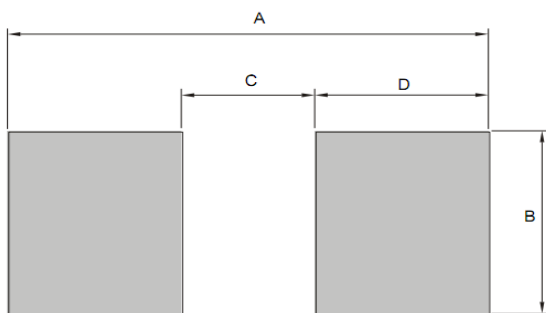


OUTLINE DIMENSIONS

DIM	MILLIMETERS			INCHES		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.000	-	4.600	0.181	-	0.157
B	4.700	-	5.280	0.185	-	0.208
C	2.400	-	2.800	0.094	-	0.110
D	1.900	-	2.400	0.075	-	0.094
E	1.300	-	1.500	0.051	-	0.059
F	0.760	-	1.520	0.030	-	0.060
G	0.100	-	0.250	0.004	-	0.010
H	0.150	-	0.305	0.006	-	0.012

RECOMMENDED LAYOUT DRAWINGS

DO-214AA(SMB)



RECOMMENDED MOUNTING PAD DIMENSIONS

Dim.	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	-	5.800	-	-	0.228	-
B	-	2.060	-	-	0.081	-
C	-	1.660	-	-	0.065	-
D	-	2.070	-	-	0.082	-

PACKING INFORMATION

DO-214AA(SMB)

Package Method	Reel Size (mm)	Quantity (pcs/reel)	Inner Box Size LxWxH(mm)	Quantity (pcs/Inner Box)	Carton Size LxWxH(mm)	Quantity (pcs/carton)
Tape Reel	Φ330	5000	340x340x45	10000	360x360x470	100000

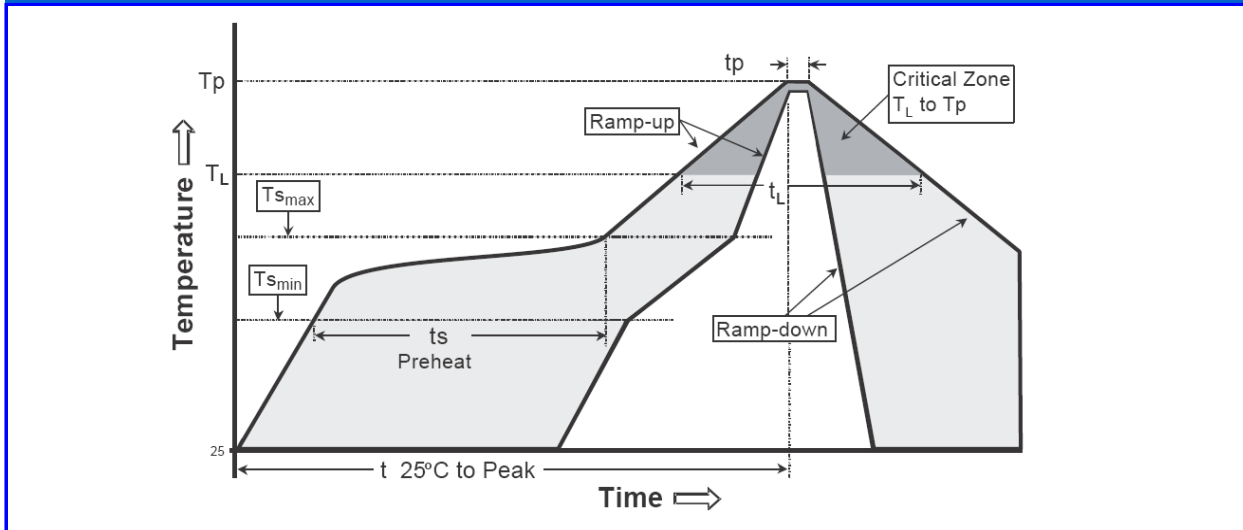
SS54A THRU SS520A
SCHOTTKY BARRIER RECTIFIERS



Recommended wave soldering condition

Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

Recommended temperature profile for IR reflow



Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (Tsmmax to Tp)	3°C/second max.	3°C/second max.
Preheat -Temperature Min(TS min) -Temperature Max(TS max) -Time(ts min to ts max)	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
Time maintained above: -Temperature (TL) - Time (tL)	183°C 60-150 seconds	217°C 60-150 seconds
Peak Temperature(TP)	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(tp)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

SS54A THRU SS520A
SCHOTTKY BARRIER RECTIFIERS



Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from niuhang Electronics co., LTD
- Niuhan Electronics co., LTD. reserves the rights to make changes of the content herein the document anytime without notification.
- Niuhan Electronics co., LTD. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Niuhan Electronics co., LTD. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Niuhan Electronics co., LTD. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Niuhan Electronics co., LTD. for any damages resulting from such improper use or sale.
- When the appearance of the product and chip size does not change, in order to product the customer quality, change the internal structure and the production process Niuhan can not notify

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Schottky Diodes & Rectifiers](#) category:

Click to view products by [NH manufacturer](#):

Other Similar products are found below :

[MA4E2039](#) [MMBD301M3T5G](#) [RB160M-50TR](#) [D83C](#) [BAS16E6433HTMA1](#) [BAS 3010S-02LRH E6327](#) [BAT 54-02LRH E6327](#)
[NRVBAF360T3G](#) [NSR05F40QNXT5G](#) [NTE555](#) [JANS1N6640](#) [SS3003CH-TL-E](#) [GA01SHT18](#) [CRS10I30A\(TE85L,QM](#) [MBRA140TRPBF](#)
[MBRB30H30CT-1G](#) [BAT 15-04R E6152](#) [JANTX1N5712-1](#) [DMJ3940-000](#) [SB007-03C-TB-E](#) [NRVBB20100CTT4G](#) [NRVBM120LT1G](#)
[NTSB30U100CT-1G](#) [CRG04\(T5L,TEMQ\)](#) [ACDBA1100LR-HF](#) [ACDBA1200-HF](#) [ACDBA240-HF](#) [ACDBA3100-HF](#) [CDBQC0530L-HF](#)
[ACDBA260LR-HF](#) [ACDBA1100-HF](#) [10BQ015-M3/5BT](#) [NRVBM120ET1G](#) [VSSB410S-M3/5BT](#) [1N5819T-G](#) [PDS1040Q-13](#) [B160BQ-13-F](#)
[SDM05U20CSP-7](#) [BAS 70-07 E6433](#) [B140S1F-7](#) [HSM560Je3/TR13](#) [DDB2265-000](#) [ZHCS506QTA](#) [HSM190Je3/TR13](#) [B330AF-13](#)
[ACDBUC0230-HF](#) [SDM1U100S1F-7](#) [MBR10200CTF-G1](#) [CDLL5712](#) [DMF2822-000](#)