

SS24 THRU SS220

SCHOTTKY BARRIER RECTIFIERS



| | | | |
|---|-----------------------------|---|----------------------|
| VOLTAGE: 40~200 Volts | CURRENT: 2.0 Amperes | DO-214AC(SMA) | Marking and Polarity |
| FEATURES | | <p>Remark:</p> <ul style="list-style-type: none"> ①. NH=niuhang trademark ②. FF=Product line,According to actual changes; YWW=Periodic code,According to actual changes; ③. SS2xx=Modle,xxx=4,45,6,8,10,15,20 ④. White band denotes cathode | |
| <ul style="list-style-type: none"> ▪ Low Forward Voltage Drop for high efficiency ▪ Low leakage current for high reliability ▪ High forward surge capability for high reliability | | | |
| MECHANICAL DATA | | | |
| <ul style="list-style-type: none"> ▪ 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 | | | |
| <ul style="list-style-type: none"> ▪ For use in high frequency inverters , DC/DC converters,LED driver etc. applications | | | |

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

| Parameter | Symbol | SS24 | SS245 | SS26 | SS28 | SS210 | SS215 | SS220 | 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) | $I_{F(AV)}$ | 2.0 | | | | | | | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL) | I_{FSM} | 50 | | | | | | | A |
| Current Squared Time Per Diode(t<8.3ms) | I^2t | 10.38 | | | | | | | A ² sec |

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

| Parameter | Test Conditions | | Symbol | SS24 | SS245 | SS26 | SS28 | SS210 | SS215 | SS220 | Unit |
|---|-----------------|--------------------|-----------|------|-------|------|------|-------|-------|-------|------|
| | Ta=25°C | IF= 2.0 A | | | | | | | | | |
| Maximum Forward Voltage(Note 1) | Ta=25°C | IF= 2.0 A | V_F | 0.55 | 0.70 | 0.80 | 0.90 | | V | | |
| Maximum instantaneous reversecurrent at rated DC blockingvoltage (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 | 220 | 150 | 100 | 80 | | pF | | |

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

| Parameter | Symbol | SS24 | SS245 | SS26 | SS28 | SS210 | SS215 | SS220 | 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) | $R_{\theta JA}$ | 75 | | | | | | | °C/W |
| | $R_{\theta JC}$ | 17 | | | | | | | |

Note: 1.Pulse width < 300 uS, Duty cycle < 2%

2.Mounted on P.C.B. with 0.2" x 0.2" (5.08 mm x 5.08 mm) copper pad areas

SS24 THRU SS220

SCHOTTKY BARRIER RECTIFIERS



RATING AND CHARACTERISTIC CURVES

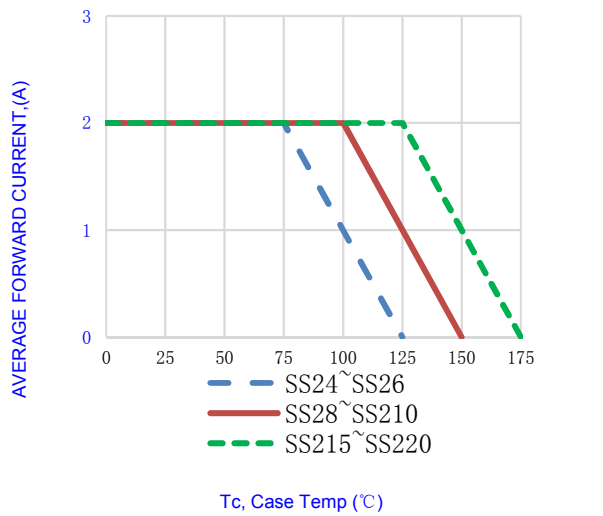


Fig.1-FORWARD CURRENT DERATING CURVE

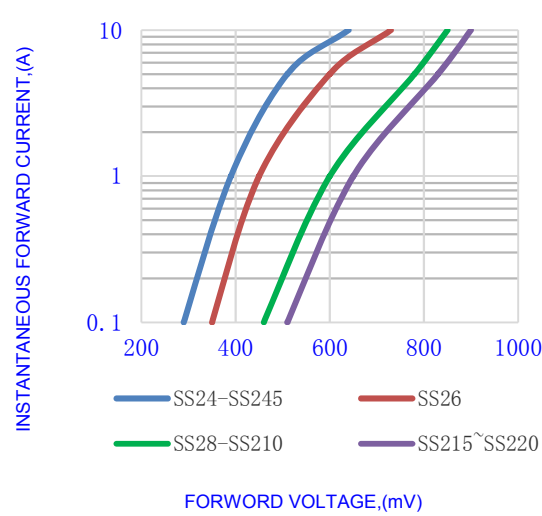


Fig.2-TYPICAL INSTANTANEOUS FORWARD

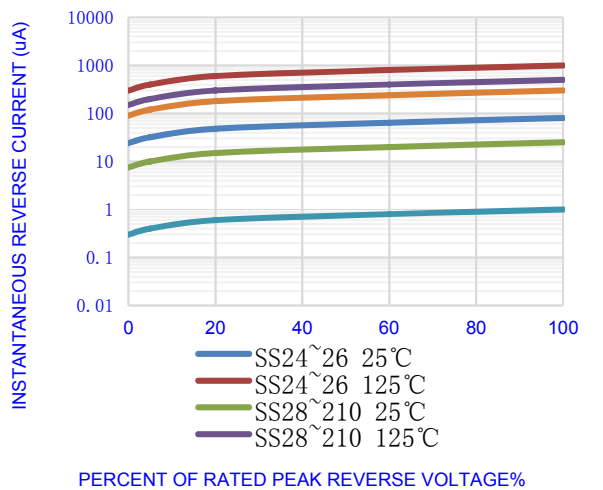


Fig.3-TYPICAL REVERSE CHARACTERISTICS

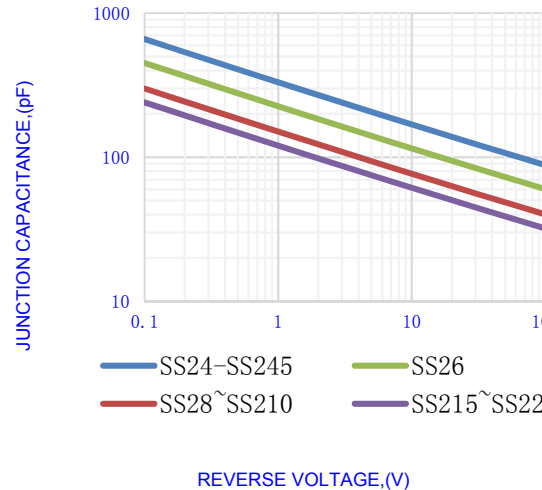


Fig.4-TYPICAL JUNCTION CAPACITANCE

mounted on P.C.B. with 0.2" x 0.2" (5 mm x 5 mm) copper pad areas

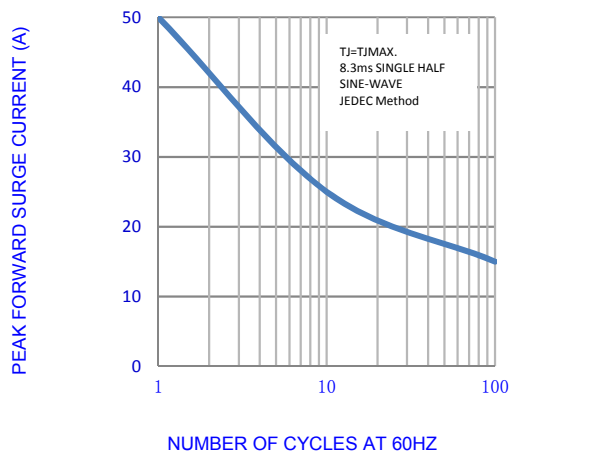


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

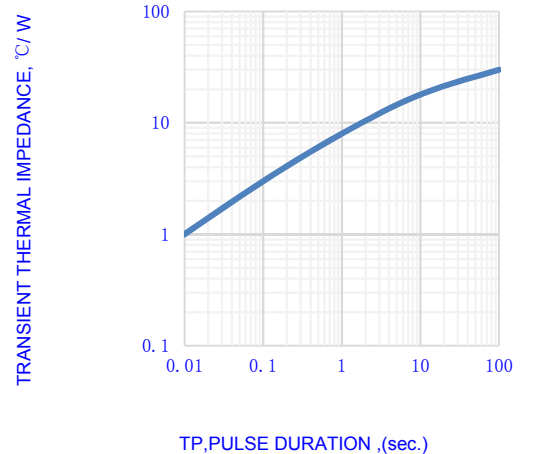


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

SS24 THRU SS220
SCHOTTKY BARRIER RECTIFIERS



| OUTLINE DRAWINGS | | | | DO-214AC(SMA) | | | |
|-----------------------------|----------------|---------------------|--------------------------|--|-----------------------|-----------------------|-------------|
| | | | | OUTLINE DIMENSIONS | | | |
| | | | | 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-214AC(SMA) | | | |
| | | | | RECOMMENDED MOUNTING PAD DIMENSIONS | | | |
| | | | | 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-214AC(SMA) | | | |
| Package Method | Reel Size (mm) | Quantity (pcs/reel) | Inner Box Size L×W×H(mm) | Quantity (pcs/Inner Box) | Carton Size L×W×H(mm) | Quantity (pcs/carton) | |
| Tape Reel | Φ330 | 5000 | 340×340×45 | 10000 | 360×360×470 | 100000 | |

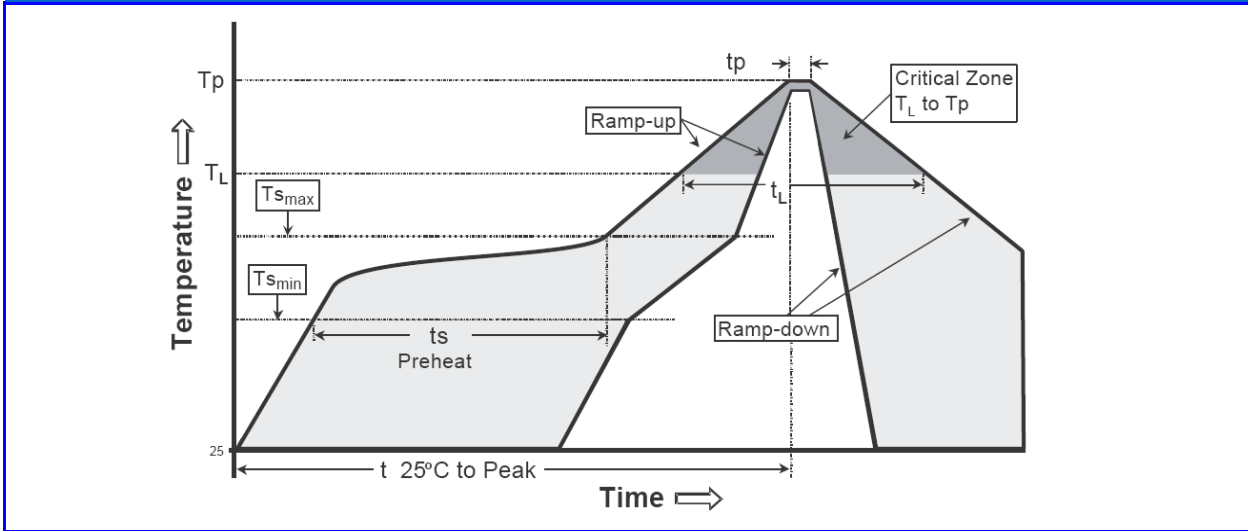
SS24 THRU SS220
SCHOTTKY BARRIER RECTIFIERS



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.

SS24 THRU SS220
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](#)