# N5GSPM84FDS-N350SA

Fast Recovery Rectifiers Gpp Chip

HF halogen-free Pb Pb-Free RoHS COMPLIANT

| Voltage: | 1000 Volts | Current: | 3.0 Ampers | Technology: | GPP | Type: | FR Chip |
|---|---|---|---|---|---|---|---|

**Features**

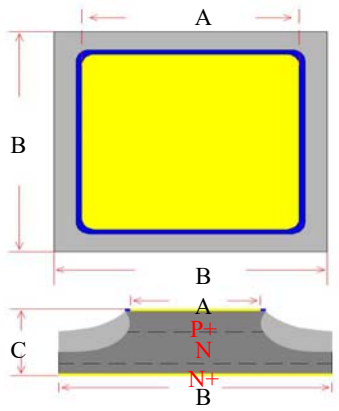
- NH'S Fast Recovery Rectifiers Chip Technology
- Low Switching Loss For High Efficiency
- Low Leakage Current For High Reliability
- Fast Switching Speed

**Typical Applications**

- Switch Mode Power Supplies (SMPS)
- Fast Chargers
- LED Driver And Monitor Lighting
- Automotive Electronics And Charging Posts

## Mechanical Data

**Chip Drawing**




**Chip Dimensions**

| Parameter | Symbol | Vale | Tolerance | Unit |
|---|---|---|---|---|
| Chip Size | A | 2.108 | ±0.050 | mm |
| Pad Size | B | 1.428 | ±0.050 | mm |
| Chip Thickness | C | 0.255 | ±0.020 | mm |
| Wafer Size | Ø | 5 | ±0.10 | in |
| | | 127 | ±2.54 | mm |

**Chip Surface Coating**

| Parameter | Coating |
|---|---|
| Top Metal | Ni-Ni |
| Back Metal | Ni-Ni |
| Passivation | Sipos+Glass+LTO |

## Maximum Ratings (Ta=25℃ Unless Otherwise Specified)

| Parameter | Test Conditions | Symbol | N5GSPM84FDS-N350SA | Unit |
|---|---|---|---|---|
| Maximum Repetitive Peak Reverse Voltage | | $V_{RRM}$ | 1000 | V |
| Maximum Average Forward Rectified Curren | @TC= 100 °C | $I_{F(AV)}$ | 3 | A |
| Peak Forward Surge Current | 8.3ms Single Half Sine-wave Superimposed On Rate Load | $I_{FSM}$ | 110 | A |

## Electrical Characteristcs (Ta=25℃ Unless Otherwise Specified )

| Parameter | Test Conditions | | Symbol | N5GSPM84FDS-N350SA | | | Unit |
|---|---|---|---|---|---|---|---|
| | | | | Min. | Typ. | Max. | |
| Instaneous Forward Voltage | Ta=25℃ | $I_F$= 3.0 A | $V_F$ | -- | 0.93 | 0.98 | V |
| | Ta=125℃ | | | -- | 0.81 | 0.86 | |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | Ta=25℃ | $V_R$= $V_{RRM}$ | $I_{RRM}$ | -- | 0.10 | 1.00 | uA |
| | Ta=125℃ | $V_R$= 80%*$V_{RRM}$ | | -- | 50.00 | 100.00 | |
| Maximum Reverse Recovery Time | $I_F$=0.5A, $I_R$=1.0A, $I_{RR}$=0.25A | | $T_{RR}$ | 150 | 200 | 350 | nS |

## Thermal Characteristcs (Ta=25℃ Unless Otherwise Specified )

| Parameter | Symbol | N5GSPM84FDS-N350SA | Unit |
|---|---|---|---|
| Operating Junction Temperature Range | $T_J$ | -55 to 150 | ℃ |
| Storage Temperature Range | $T_{STD}$ | -55 to 150 | |

Notes: 1.Pulse Test: 300 uS Pulse Width,1% Duty Cycle

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## Typical Characteristics Curves

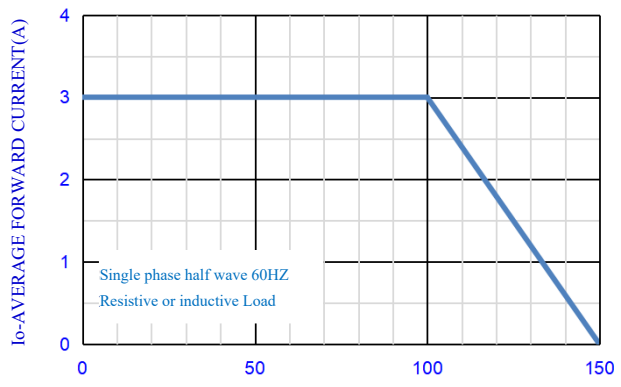


Fig.1-FORWARD CURRENT DERATING CURVE

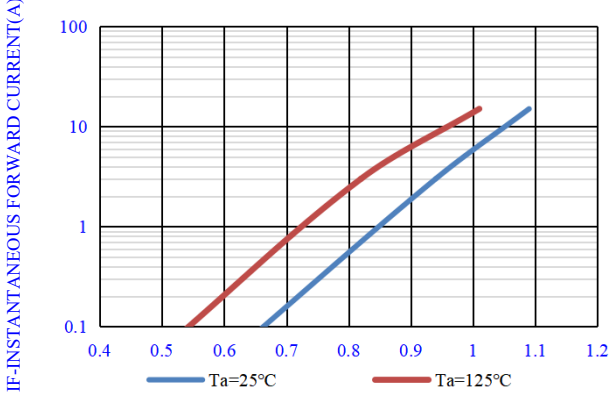


Fig.2- TYPICAL INSTANTANEOUS FORWARD

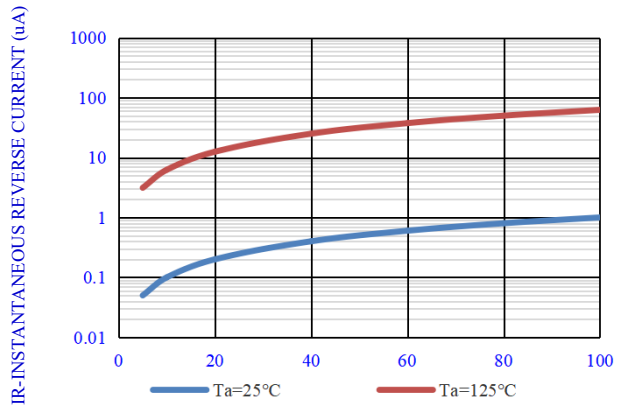


Fig.3- TYPICAL REVERSE CHARACTERISTICS

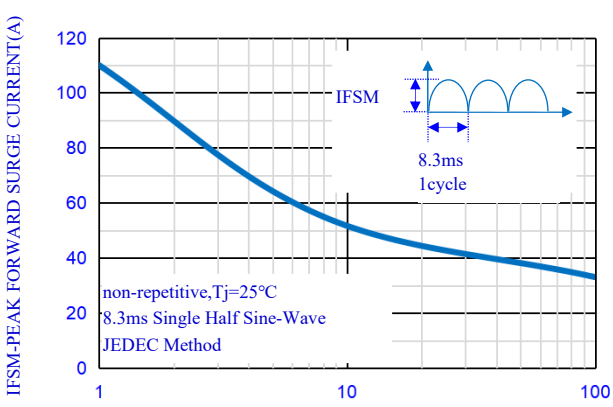


Fig.4-MAX. NON-REPETITIVE SURGE CURRENT

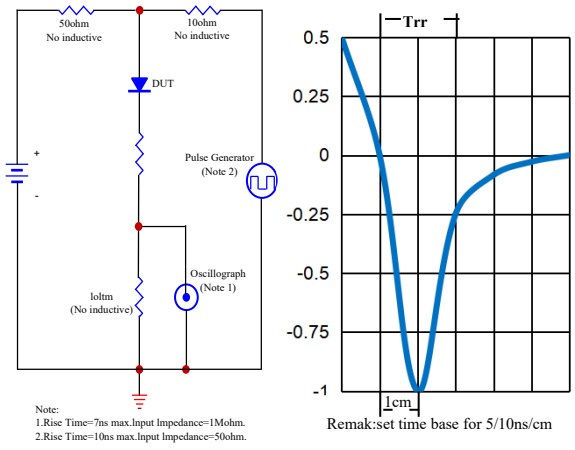


Fig.5-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT

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