



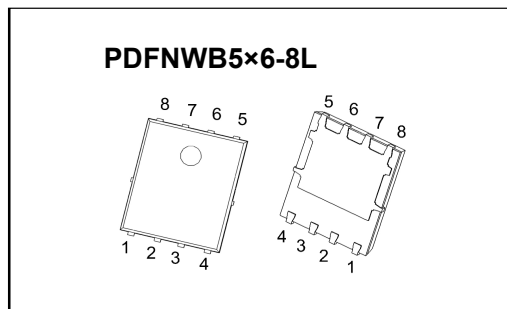
PDFNWB5×6-8L Plastic-Encapsulate Diode

SBDA30100T

SCHOTTKY BARRIER RECTIFIER

MAIN CHARACTERISTICS

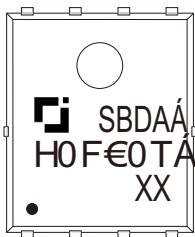
| | |
|--------------|---|
| I_O | 30A |
| V_{RRM} | 100 V |
| T_j | 150 °C |
| $V_{F(typ)}$ | 0.70V (@$T_j=125^{\circ}C$) |



FEATURES

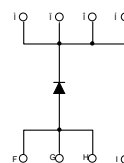
- Low Power Loss, High Efficiency
- Guard Ring Die Construction for Transient Protection
- High Current Capability and Low Forward Voltage Drop

MARKING



SBDA30100T = Device code
 Solid dot = Pin1 indicator
 XX = Code

EQUIVALENT CIRCUIT



Pin 1~Pin 3: ANODE
 Pin 5~Pin 8: CATHODE

MAXIMUM RATINGS ($T_a=25^{\circ}C$ unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|-----------------|--|----------|---------------|
| V_{RRM} | Peak repetitive reverse voltage | 100 | V |
| V_{RWM} | Working peak reverse voltage | | |
| V_R | DC blocking voltage | | |
| $V_{R(RMS)}$ | RMS reverse voltage | 70 | V |
| I_O | Average rectified output current | 30 | A |
| I_{FSM} | Non-Repetitive peak forward surge current (8.3ms half sine wave) | 300 | A |
| $R_{\theta JC}$ | Thermal resistance from junction to case, $T_c=25^{\circ}C$ | 2.0 | $^{\circ}C/W$ |
| $R_{\theta JA}$ | Thermal resistance from junction to ambient | 62.5 | $^{\circ}C/W$ |
| T_j | Junction temperature | 150 | $^{\circ}C$ |
| T_{stg} | Storage temperature | -55~+150 | $^{\circ}C$ |

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}C$ unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|-----------------|------------|-----------------|--------------------|------|------|---------|
| Reverse voltage | $V_{(BR)}$ | $I_R=0.1mA$ | 100 | | | V |
| Reverse current | I_R | $V_R=100V$ | $T_j=25^{\circ}C$ | 2.0 | 100 | μA |
| | | | $T_j=125^{\circ}C$ | 2.0 | | mA |
| Forward voltage | V_F | $I_F=15A$ | $T_j=25^{\circ}C$ | 0.60 | | V |
| | | | $T_j=125^{\circ}C$ | 0.58 | | V |
| | | $I_F=30A$ | $T_j=25^{\circ}C$ | 0.76 | 0.82 | V |
| | | | $T_j=125^{\circ}C$ | 0.70 | | V |

1, Pulse test: pulse width $\leq 300\mu s$, duty cycle $\leq 2.0\%$.

2, The value of $R_{\theta JA}$ is measured with the device mounted on 1 in 2 FR-4 board with 2oz. Copper, in a still air environment with $T_a=25^{\circ}C$.

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

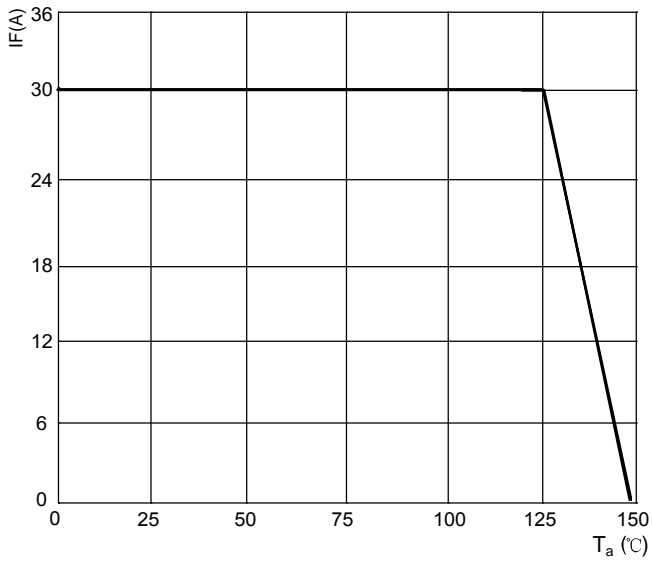


FIG.2: TYPICAL FORWARD CHARACTERISTICS

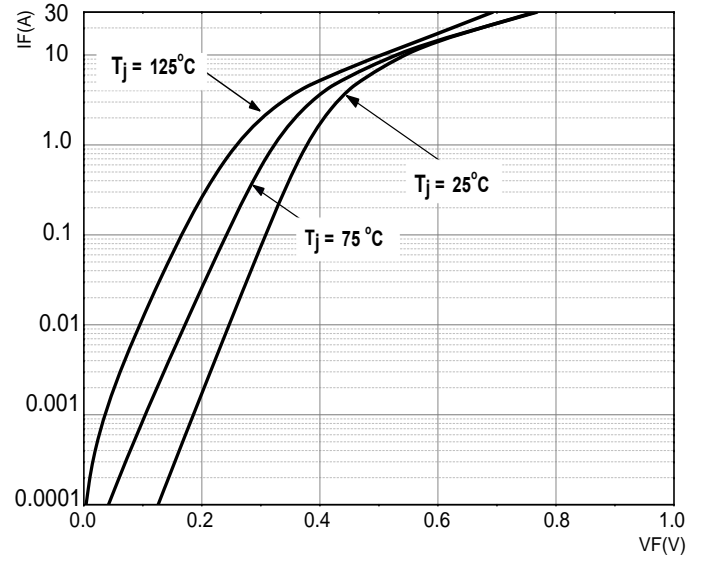


FIG.3: TOTAL CAPACITANCE DERATING CURVE

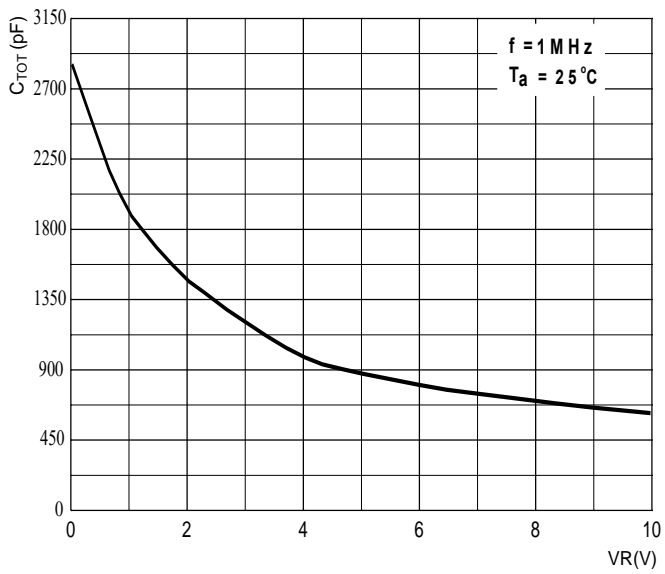
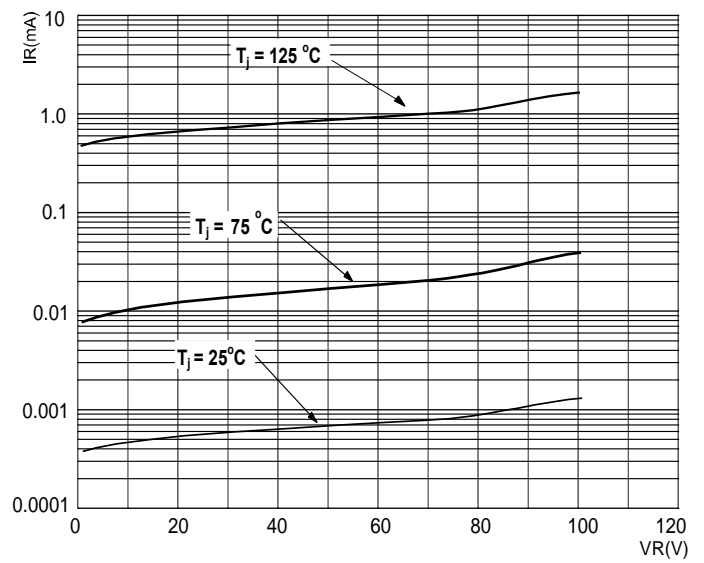
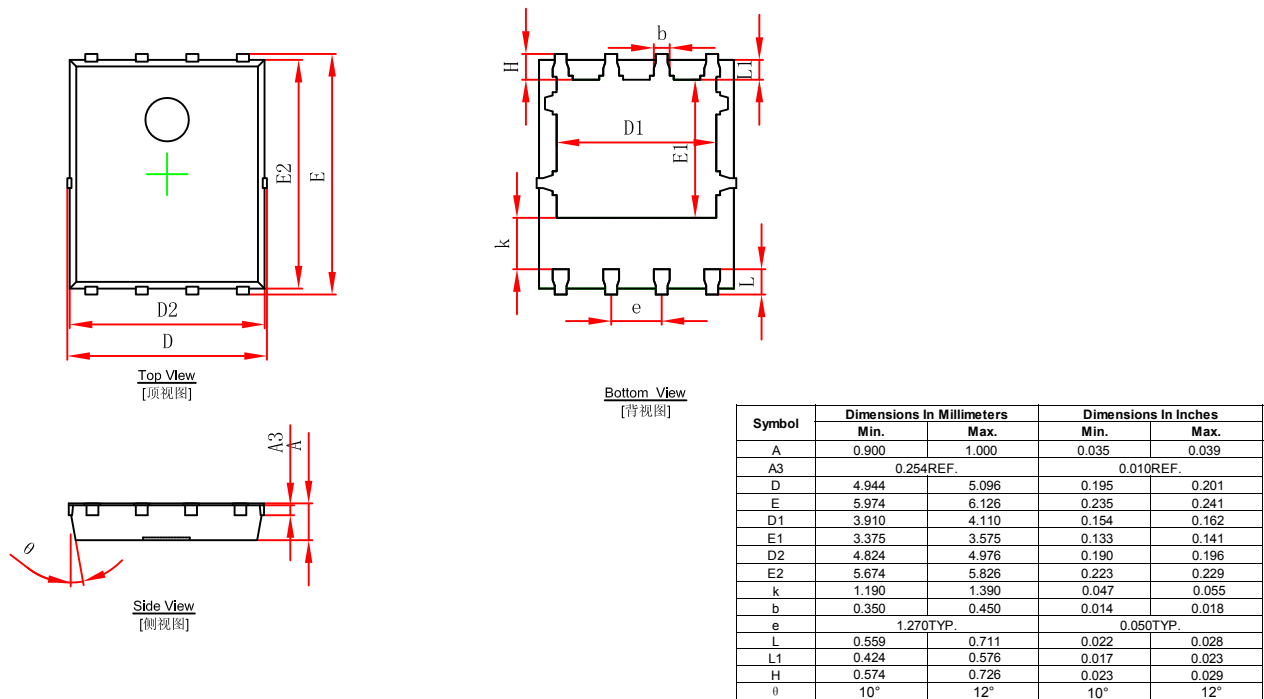


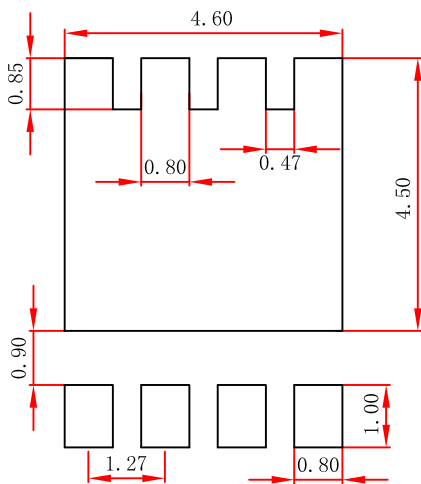
FIG.4: TYPICAL REVERSE CHARACTERISTICS



PDFNWB5x6-8L Package Outline Dimensions



PDFNWB5x6-8L Suggested Pad Layout

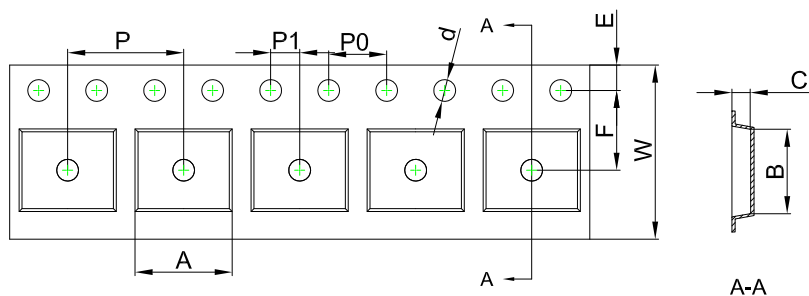


Note:

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

PDFNWB5×6 Tape and Reel

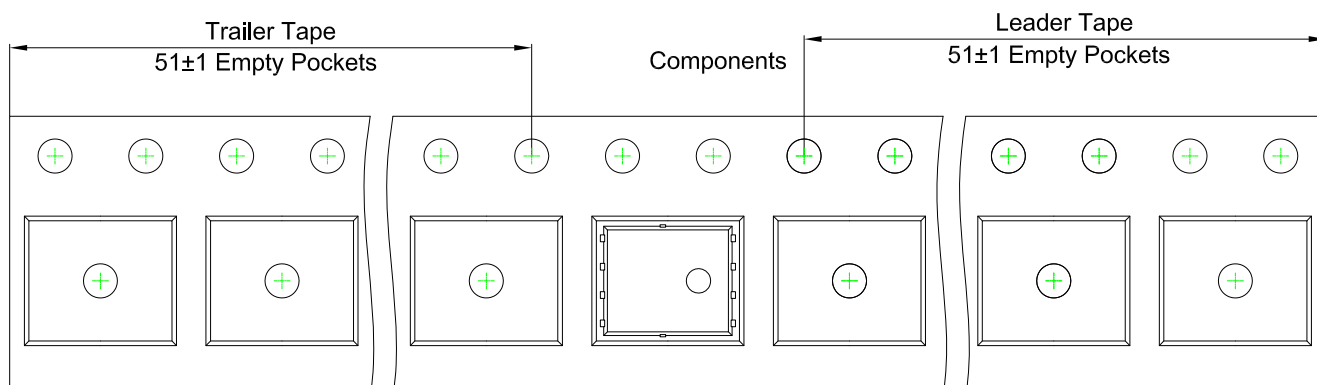
PDFNWB5×6-8L Embossed Carrier Tape



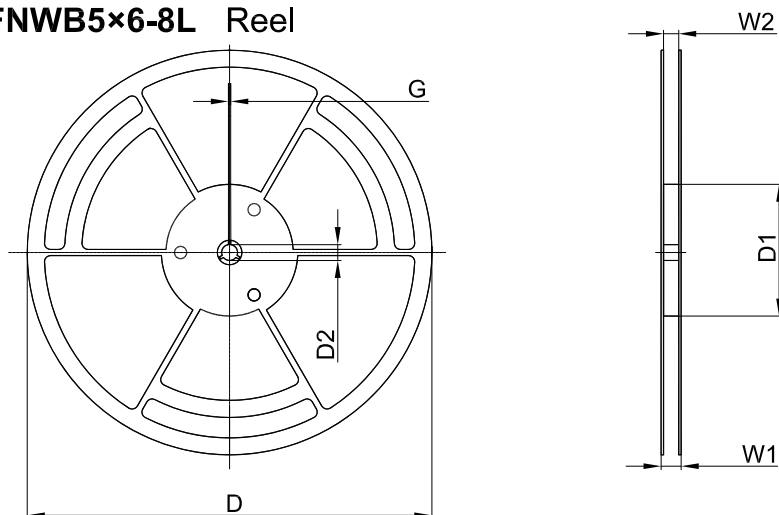
Packaging Description:
PDFNWB5×6-8L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 5,000 units per 13" or 33.0 cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

| Dimensions are in millimeter | | | | | | | | | | |
|------------------------------|------|------|------|-------|------|------|------|------|------|-------|
| Pkg type | A | B | C | d | E | F | P0 | P | P1 | W |
| PDFNWB5×6-8L | 6.30 | 5.30 | 1.10 | Ø1.50 | 1.75 | 5.50 | 4.00 | 8.00 | 2.00 | 12.00 |

PDFNWB5×6-8L Tape Leader and Trailer



PDFNWB5×6-8L Reel



| Dimensions are in millimeter | | | | | | |
|------------------------------|---------|--------|-------|------|-------|-------|
| Reel Option | D | D1 | D2 | G | W1 | W2 |
| 13"Dia | Ø330.00 | 100.00 | 13.00 | 1.90 | 17.60 | 12.40 |

| REEL | Reel Size | Box | Box Size(mm) | Carton | Carton Size(mm) |
|-----------|-----------|-----------|--------------|------------|-----------------|
| 5,000 pcs | 13 inch | 5,000 pcs | 340×336×29 | 50,000 pcs | 353×346×365 |