

## Features

- Halogen Free. "Green" Device (Note 1)
- Low Profile Package
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant (Note 2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)



## Maximum Ratings @ 25°C (Unless Otherwise Specified)

| Parameter   | Symbol      | Value    |          | Unit                 |
|---|-------------|----------|----------|----------------------|
|   |             | SMD110PE | SMD120PE |                      |
| Peak Repetitive Reverse Voltage                               | $V_{RRM}$   | 100      | 200      | V                    |
| Working Peak Reverse Voltage                                  | $V_{RWM}$   |          |          |                      |
| DC Blocking Voltage   | $V_R$       |          |          |                      |
| RMS Reverse Voltage   | $V_{RMS}$   | 70       | 140      | V                    |
| Average Rectified Forward Current @ $T_L=150^{\circ}\text{C}$ | $I_{F(AV)}$ | 1        |          | A                    |
| Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave      | $I_{FSM}$   | 30       |          | A                    |
| Current Squared Time @ $1\text{ms} \leq t \leq 8.3\text{ms}$  | $I^2t$      | 3.735    |          | $\text{A}^2\text{s}$ |

## Marking code

| Part Number | Marking code |
|-------------|--------------|
| SMD110PE    | 110          |
| SMD120PE    | 120          |

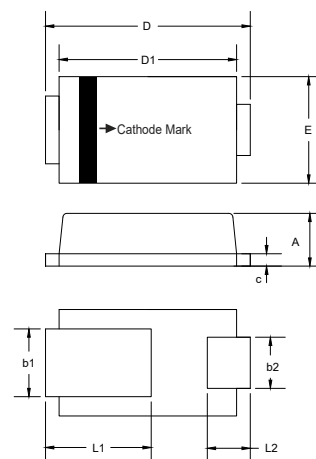
## Internal Structure

| Pin | Description | Simplified outline   | Graphic symbol  |
|-----|-------------|--|---|
| 1   | Cathode     | <br>XXXX = Marking code |  |
| 2   | Anode       |  |   |

- Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.

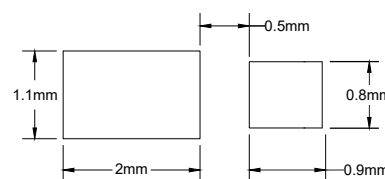
# 1 Amp Surface Mount Schottky Rectifier 100 to 200 Volts

## SOD-323HE



| DIM | INCHES |       | MM   |      | NOTE |
|-----|--------|-------|------|------|------|
|     | MIN    | MAX   | MIN  | MAX  |      |
| A   | 0.024  | 0.029 | 0.60 | 0.73 |      |
| b1  | 0.030  | 0.039 | 0.75 | 1.00 |      |
| b2  | 0.022  | 0.030 | 0.55 | 0.75 |      |
| c   | 0.004  | 0.010 | 0.10 | 0.25 |      |
| D   | 0.091  | 0.106 | 2.30 | 2.70 |      |
| D1  | 0.083  | 0.091 | 2.10 | 2.30 |      |
| E   | 0.047  | 0.055 | 1.20 | 1.40 |      |
| L1  | 0.043  | 0.059 | 1.10 | 1.50 |      |
| L2  | 0.020  | 0.028 | 0.50 | 0.70 |      |

## SUGGESTED SOLDER PAD LAYOUT



## Thermal characteristics

| Symbol        | Parameter                                   | Conditions | Min | Typ | Max | Unit |
|---------------|---|------------|-----|-----|-----|------|
| $T_J$         | Operating Junction Temperature Range        |            | -55 |     | 175 | °C   |
| $T_{stg}$     | Storage Temperature Range                   |            | -55 |     | 175 | °C   |
| $R_{th(J-L)}$ | Thermal Resistance from Junction to Lead    | Note 1     |     | 25  |     | °C/W |
| $R_{th(J-C)}$ | Thermal Resistance from Junction to Case    | Note 1     |     | 20  |     | °C/W |
| $R_{th(J-A)}$ | Thermal Resistance from Junction to Ambient | Note 1     |     | 105 |     | °C/W |

Note:

1. Mounted on P.C.B. with 5mm\*5mm copper pad areas.

## Electrical Characteristics @ 25°C Unless Otherwise Specified

| Parameter            | Symbol | Test Conditions  | Min | Typ                          | Max       | Unit |
|----------------------|--------|--|-----|------------------------------|-----------|------|
| Forward Voltage      |        |  |     |                              |           |      |
| SMD110PE             | $V_F$  | $I_F=0.5A; T_J=25^{\circ}C$<br>$I_F=0.5A; T_J=125^{\circ}C$<br>$I_F=1A; T_J=25^{\circ}C$<br>$I_F=1A; T_J=125^{\circ}C$ |     | 0.72<br>0.58<br>0.77<br>0.63 | 0.85      | V    |
| SMD120PE             |        | $I_F=0.5A; T_J=25^{\circ}C$<br>$I_F=0.5A; T_J=125^{\circ}C$<br>$I_F=1A; T_J=25^{\circ}C$<br>$I_F=1A; T_J=125^{\circ}C$ |     | 0.77<br>0.63<br>0.82<br>0.69 | 0.90      |      |
| Reverse Current      |        |  |     |                              |           |      |
| SMD110PE             | $I_R$  | at Rated $V_R; T_J=25^{\circ}C$<br>at Rated $V_R; T_J=125^{\circ}C$  |     | 0.02<br>7.5                  | 10<br>500 | uA   |
| SMD120PE             |        | at Rated $V_R; T_J=25^{\circ}C$<br>at Rated $V_R; T_J=125^{\circ}C$  |     | 0.005<br>5.5                 | 10<br>500 |      |
| Junction Capacitance |        |  |     |                              |           |      |
| SMD110PE             | $C_J$  | $V_R=4V; f=1MHz; T_J=25^{\circ}C$  |     | 30                           |           | pF   |
| SMD120PE             |        |  |     | 20                           |           |      |

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

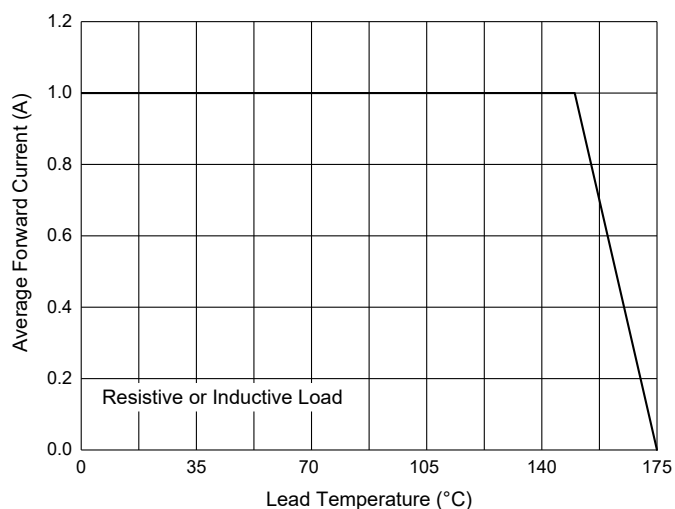


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

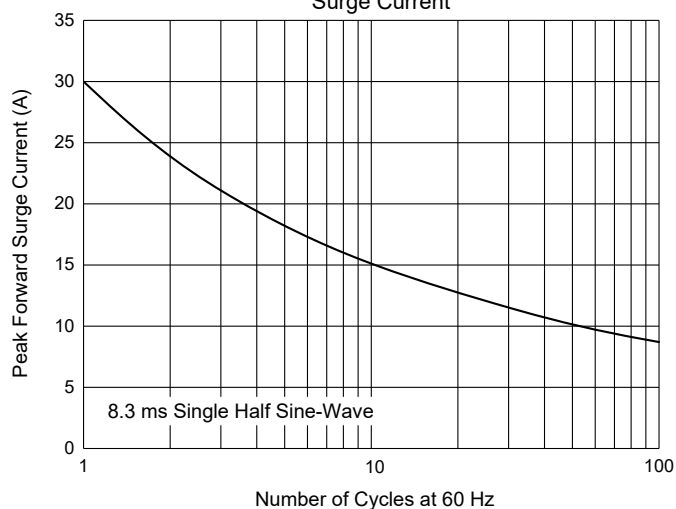


Fig. 3 - Typical Forward Characteristics

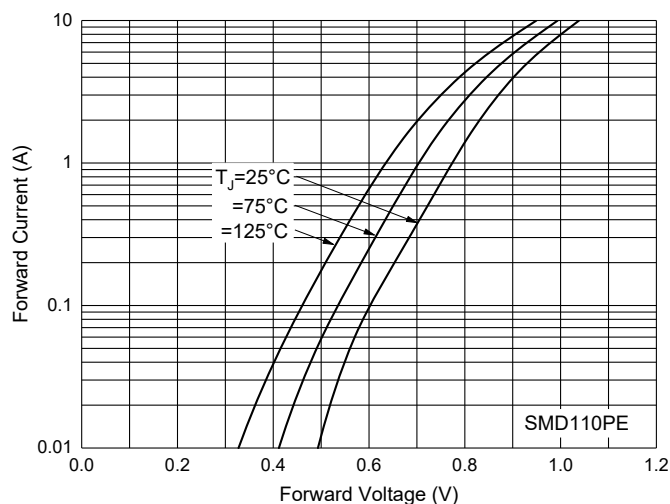


Fig. 4 - Typical Forward Characteristics

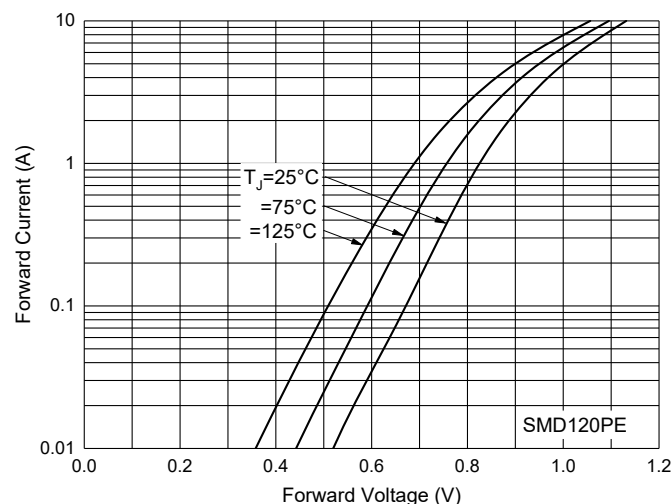


Fig. 5 - Typical Reverse Leakage Characteristics

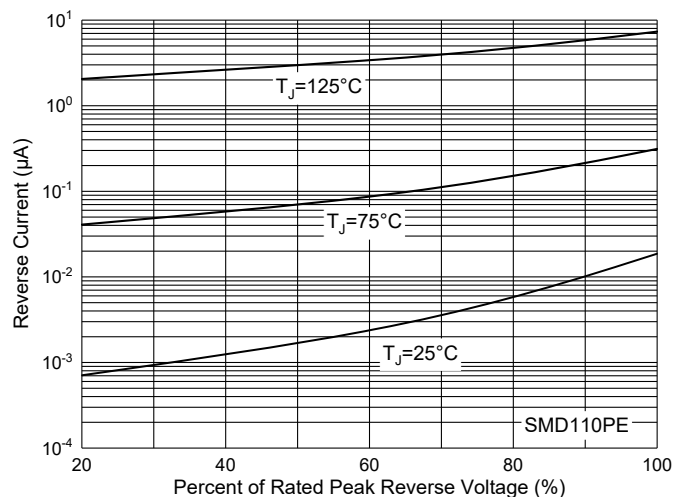
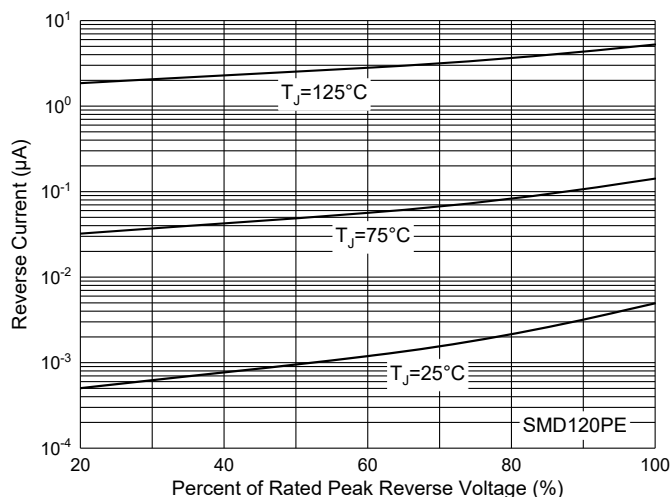


Fig. 6 - Typical Reverse Leakage Characteristics



## Curve Characteristics

Fig. 7 - Typical Capacitance Characteristics

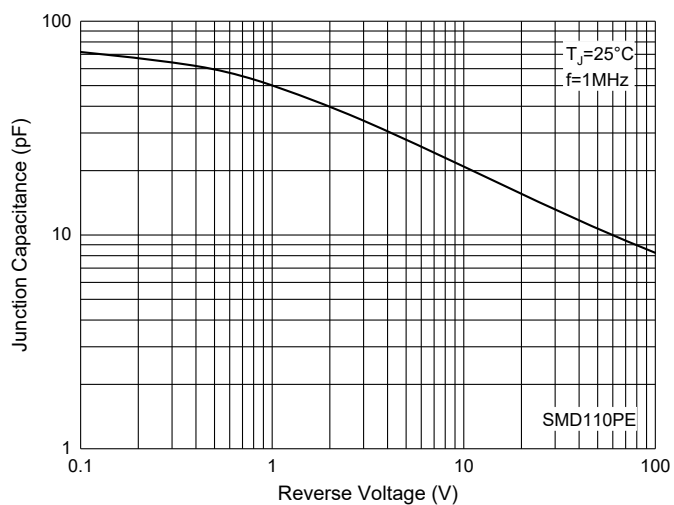
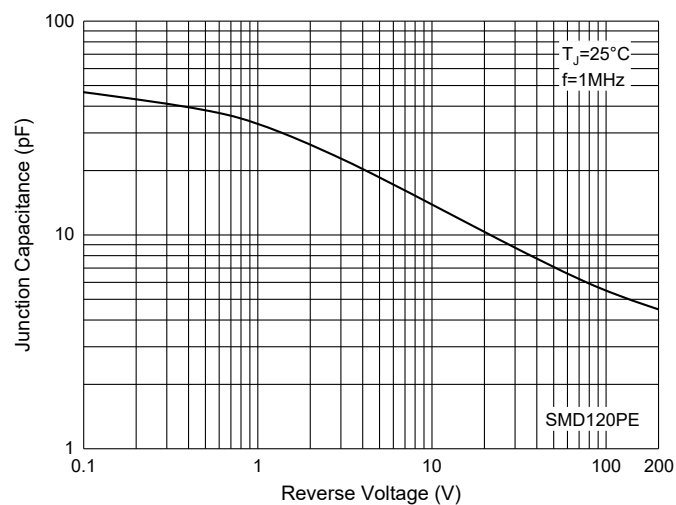


Fig. 8 - Typical Capacitance Characteristics



## Ordering Information

| Device         | Packing                |
|----------------|------------------------|
| Part Number-TP | Tape&Reel:4.5Kpcs/Reel |

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