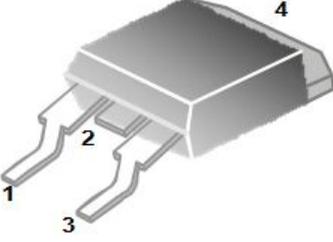
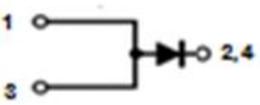
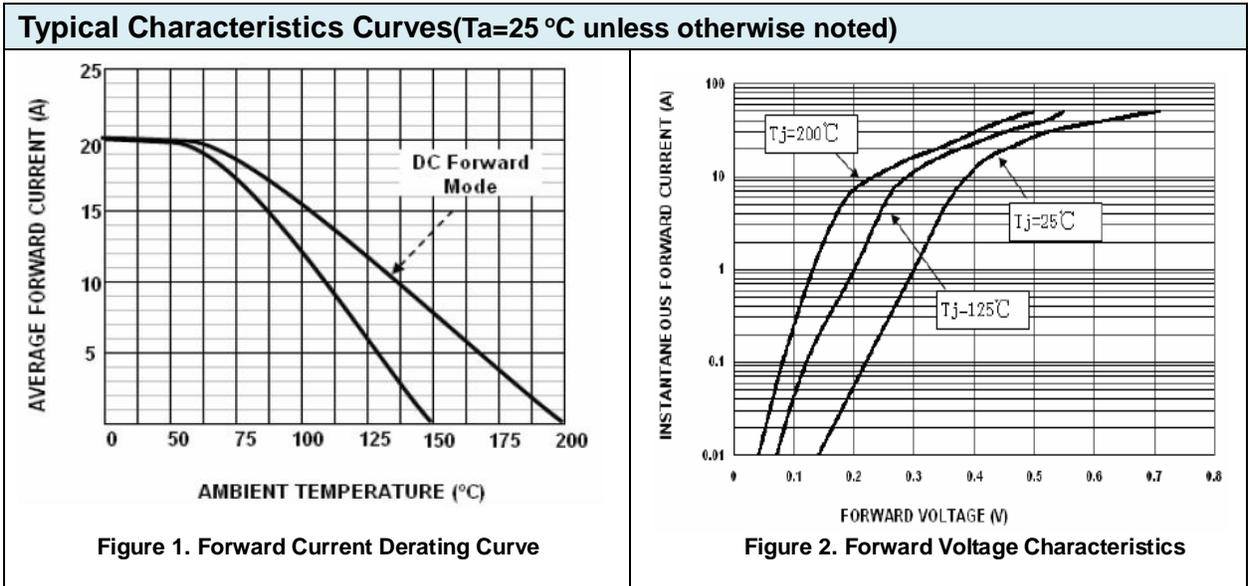


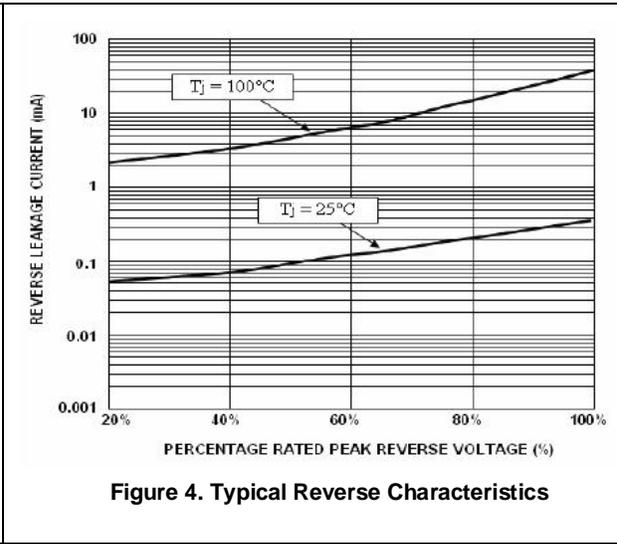
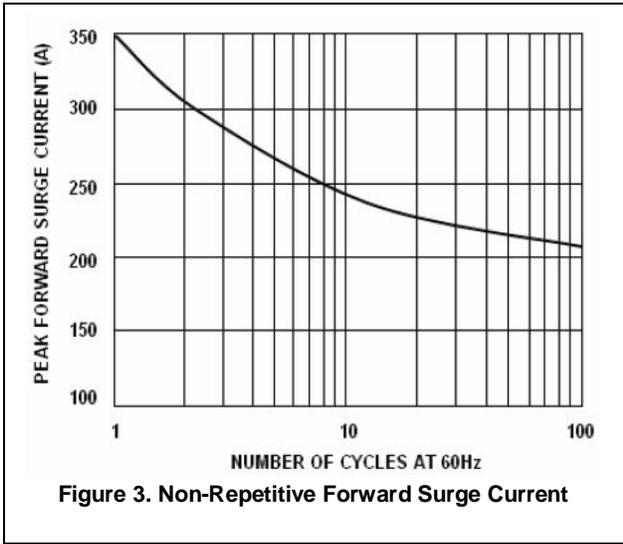
| <p style="text-align: center;"><u>D²PAK</u></p>   | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="background-color: #e1f5fe;">Features</th> </tr> <tr> <td style="padding: 5px;"> <ul style="list-style-type: none"> Metal silicon junction, majority carrier conduction Highly stable oxide passivated junction Guard ring for stress protection Low forward voltage drop High current capability High surge capability High reliability capability Suffix "F" indicates halogen free parts, ex. SPST20L45F Ideal for solar panel PV application such as By-Pass diode </td> <td style="text-align: center; vertical-align: middle;">  </td> </tr> <tr> <th colspan="2" style="background-color: #e1f5fe;">Mechanical Data</th> </tr> <tr> <td style="padding: 5px;"> <ul style="list-style-type: none"> Case : D²PAK , Epoxy, Molded Plastic package has Underwrites Laboratory Flammability Classification 94V-0 Terminal : Pure tin plated, lead free Lead temperature for soldering purpose : 260°C max. for 10 sec Weight : Approx. 1.8g </td> <td></td> </tr> </table> | Features | | <ul style="list-style-type: none"> Metal silicon junction, majority carrier conduction Highly stable oxide passivated junction Guard ring for stress protection Low forward voltage drop High current capability High surge capability High reliability capability Suffix "F" indicates halogen free parts, ex. SPST20L45F Ideal for solar panel PV application such as By-Pass diode |  | Mechanical Data | | <ul style="list-style-type: none"> Case : D²PAK , Epoxy, Molded Plastic package has Underwrites Laboratory Flammability Classification 94V-0 Terminal : Pure tin plated, lead free Lead temperature for soldering purpose : 260°C max. for 10 sec Weight : Approx. 1.8g | | | | | |
|--|--|------------|-------------|--|---|-----------------|-----------|---|-------|-------|------------|---------------|--|
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| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="background-color: #e1f5fe;">Primary Characteristics</th> </tr> <tr> <td style="padding: 5px;">$I_{F(AV)}$</td> <td style="text-align: center; padding: 5px;">20A</td> </tr> <tr> <td style="padding: 5px;">V_{RRM}</td> <td style="text-align: center; padding: 5px;">45V</td> </tr> <tr> <td style="padding: 5px;">I_{FSM}</td> <td style="text-align: center; padding: 5px;">350A</td> </tr> <tr> <td style="padding: 5px;">V_F</td> <td style="text-align: center; padding: 5px;">0.50V</td> </tr> <tr> <td style="padding: 5px;">T_J max.</td> <td style="text-align: center; padding: 5px;">-50 ~ +125 °C</td> </tr> </table> | Primary Characteristics | | $I_{F(AV)}$ | 20A | V_{RRM} | 45V | I_{FSM} | 350A | V_F | 0.50V | T_J max. | -50 ~ +125 °C | |
| Primary Characteristics | | | | | | | | | | | | | |
| $I_{F(AV)}$ | 20A | | | | | | | | | | | | |
| V_{RRM} | 45V | | | | | | | | | | | | |
| I_{FSM} | 350A | | | | | | | | | | | | |
| V_F | 0.50V | | | | | | | | | | | | |
| T_J max. | -50 ~ +125 °C | | | | | | | | | | | | |
| Maximum Rating (Ta=25°C unless otherwise noted) | | | | | | | | | | | | | |
| Parameter | Symbol | Value | Unit | | | | | | | | | | |
| Repetitive Peak Reverse Voltage | V_{RRM} | 45 | V | | | | | | | | | | |
| RMS Reverse Voltage | V_{RMS} | 31.5 | V | | | | | | | | | | |
| DC Blocking Voltage | V_{DC} | 45 | V | | | | | | | | | | |
| DC Forward Current | $I_{F(AV)}$ | 20 | A | | | | | | | | | | |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | I_{FSM} | 350 | A | | | | | | | | | | |
| Operating Junction Temperature | T_J | -50 ~ +125 | °C | | | | | | | | | | |
| Operating Junction Temperature – in DC forward Mode | T_J | 200 max | °C | | | | | | | | | | |
| Storage Temperature | T_{STG} | -50 ~ +150 | °C | | | | | | | | | | |

| Maximum Rating (Ta=25°C unless otherwise noted) | | | | | | |
|---|-----------------------|----------------------------------|----------------|------|------|------|
| Parameter | Test Condition | | Symbol | Typ. | Max. | Unit |
| Forward Voltage Drop ⁽¹⁾ | T _j =25°C | I _F =5A | V _F | 0.35 | 0.40 | V |
| | T _j =125°C | | | 0.24 | - | V |
| | T _j =200°C | | | 0.17 | - | V |
| | T _j =25°C | I _F =8A | V _F | 0.38 | 0.42 | V |
| | T _j =125°C | | | 0.27 | - | V |
| | T _j =200°C | | | 0.21 | - | V |
| | T _j =25°C | I _F =12A | V _F | 0.40 | - | V |
| | T _j =125°C | | | 0.31 | - | V |
| | T _j =200°C | | | 0.26 | - | V |
| | T _j =25°C | I _F =20A | V _F | 0.45 | 0.50 | V |
| | T _j =125°C | | | 0.38 | - | V |
| | T _j =200°C | | | 0.34 | - | V |
| Reverse Leakage Current ⁽¹⁾ | T _j =25°C | V _R =V _{RRM} | I _R | 0.4 | 1 | mA |
| | T _j =100°C | | | - | 100 | mA |

Note:

(1) Pulse test with PW=300us, 1% duty cycle





Package Outline Dimensions

| DIM | INCHES | | MILLIMETERS | |
|-----|--------|-------|-------------|-------|
| | MIN | MAX | MIN | MAX |
| A | 0.340 | 0.380 | 8.64 | 9.65 |
| B | 0.380 | 0.405 | 9.65 | 10.29 |
| C | 0.160 | 0.190 | 4.08 | 4.83 |
| D | 0.020 | 0.035 | 0.51 | 0.89 |
| E | 0.045 | 0.055 | 1.14 | 1.40 |
| G | 0.096 | 0.105 | 2.44 | 2.64 |
| H | 0.080 | 0.110 | 2.03 | 2.79 |
| J | 0.018 | 0.025 | 0.46 | 0.64 |
| K | 0.090 | 0.110 | 2.29 | 2.79 |
| S | 0.575 | 0.625 | 14.60 | 15.88 |
| V | 0.045 | 0.055 | 1.14 | 1.40 |

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