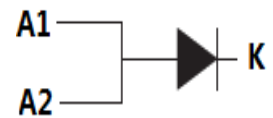


**Main Product Characteristics:**

|                      |       |
|----------------------|-------|
| IF                   | 20A   |
| VRRM                 | 80V   |
| T <sub>J</sub> (max) | 150°C |
| Vf(max)              | 0.7V  |


**Schematic Diagram**
**Features and Benefits:**

- High Junction Temperature
- High ESD Protection
- High Forward & Reverse Surge capability


**Description:**

Schottky Barrier Rectifier designed for high frequency switch model power supplies such as adaptors and DC/DC converters; this product special design for high forward and reverse surge capability

**Absolute Rating:**

| Symbol              | Characterizes                                             | Value   | Unit |
|---------------------|-----------------------------------------------------------|---------|------|
| V <sub>RRM</sub>    | Peak Repetitive Reverse Voltage                           | 80      | V    |
| V <sub>R(RMS)</sub> | RMS Reverse Voltage                                       | 56      | V    |
| I <sub>F(AV)</sub>  | Average Forward Current                                   | 20      | A    |
| I <sub>FSM</sub>    | Non Repetitive Surge Forward Current(tp=8.3ms sinusoidal) | 180     | A    |
| I <sub>RRM</sub>    | Peak Repetitive Reverse Surge Current(Tp=2us)             | 2       | A    |
| T <sub>J</sub>      | Maximum operation Junction Temperature Range              | -55~150 | °C   |
| T <sub>stg</sub>    | Storage Temperature Range                                 | -55~150 | °C   |

**Thermal Resistance**

| Symbol           | Characterizes                                        | Value | Unit |
|------------------|------------------------------------------------------|-------|------|
| R <sub>θJC</sub> | Maximum Thermal Resistance Junction To Case(per leg) | 2     | °C/W |
| R <sub>θJC</sub> |                                                      | 4     | °C/W |

**Electrical Characterizes @T<sub>A</sub>=25°C unless otherwise specified**

| Symbol         | Characterizes             | Min | Typ | Max  | Unit | Test Condition                             |
|----------------|---------------------------|-----|-----|------|------|--------------------------------------------|
| V <sub>R</sub> | Reverse Breakdown Voltage | 80  |     |      | V    | I <sub>R</sub> =0.5mA                      |
| V <sub>F</sub> | Forward Voltage Drop      |     |     | 0.65 | V    | I <sub>F</sub> =10A, T <sub>J</sub> =25°C  |
|                |                           |     |     | 0.72 |      | I <sub>F</sub> =20A, T <sub>J</sub> =25°C  |
|                |                           |     |     | 0.7  |      | I <sub>F</sub> =20A, T <sub>J</sub> =125°C |
| I <sub>R</sub> | Leakage Current           |     |     | 0.2  | mA   | V <sub>R</sub> =80V, T <sub>J</sub> =25°C  |
|                |                           |     |     | 20   |      | V <sub>R</sub> =80V, T <sub>J</sub> =125°C |

I-V Curves:

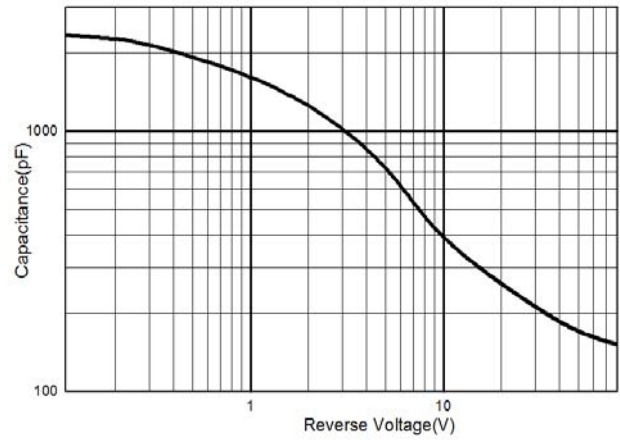
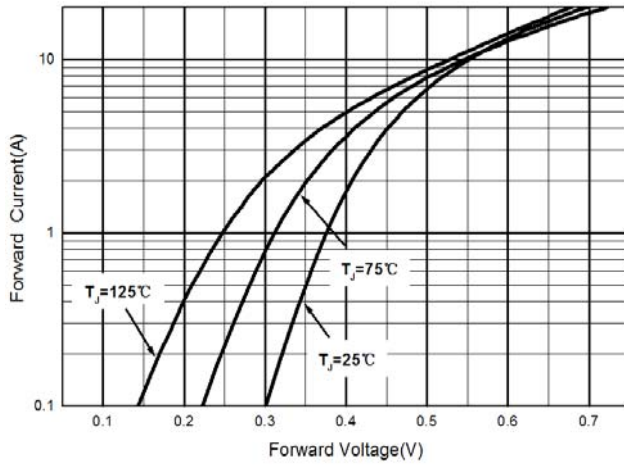


Figure 1: Typical Forward Characteristics

Figure 2: Typical Capacitance Characteristics

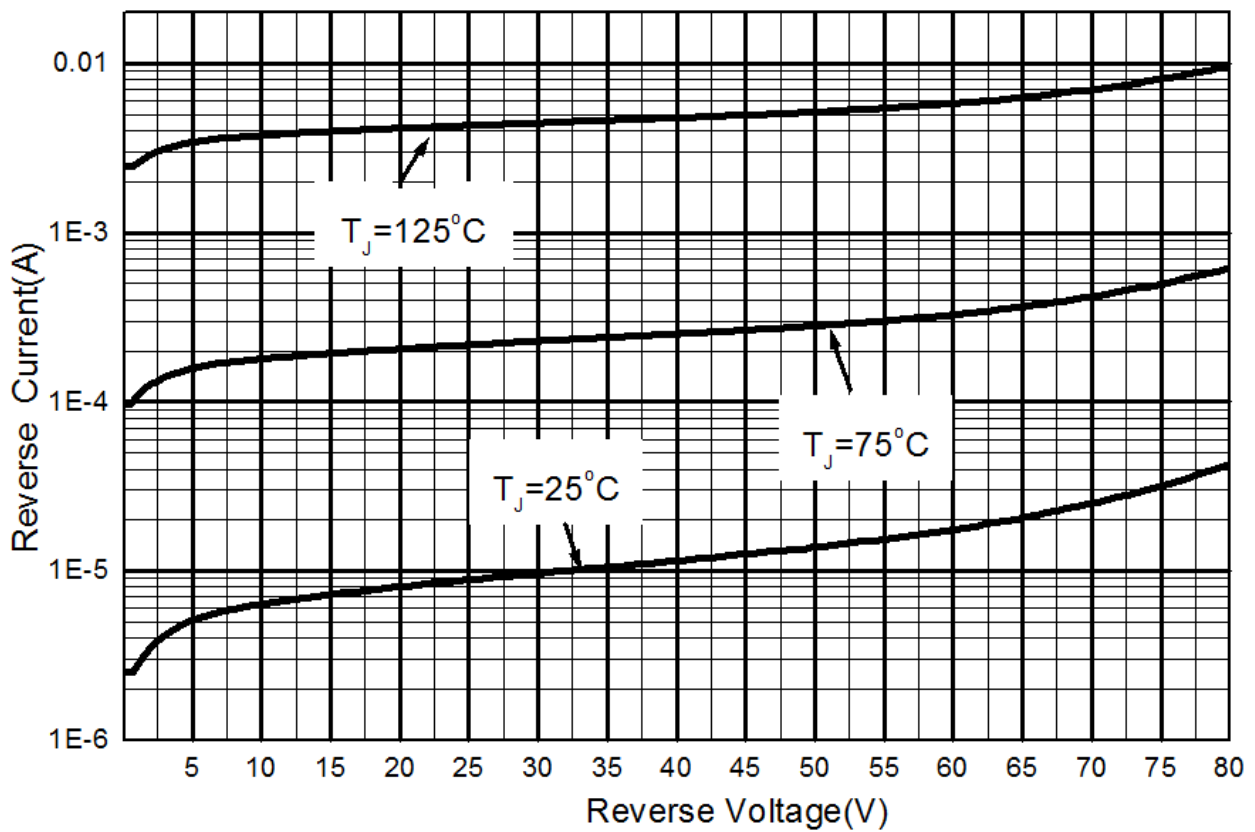
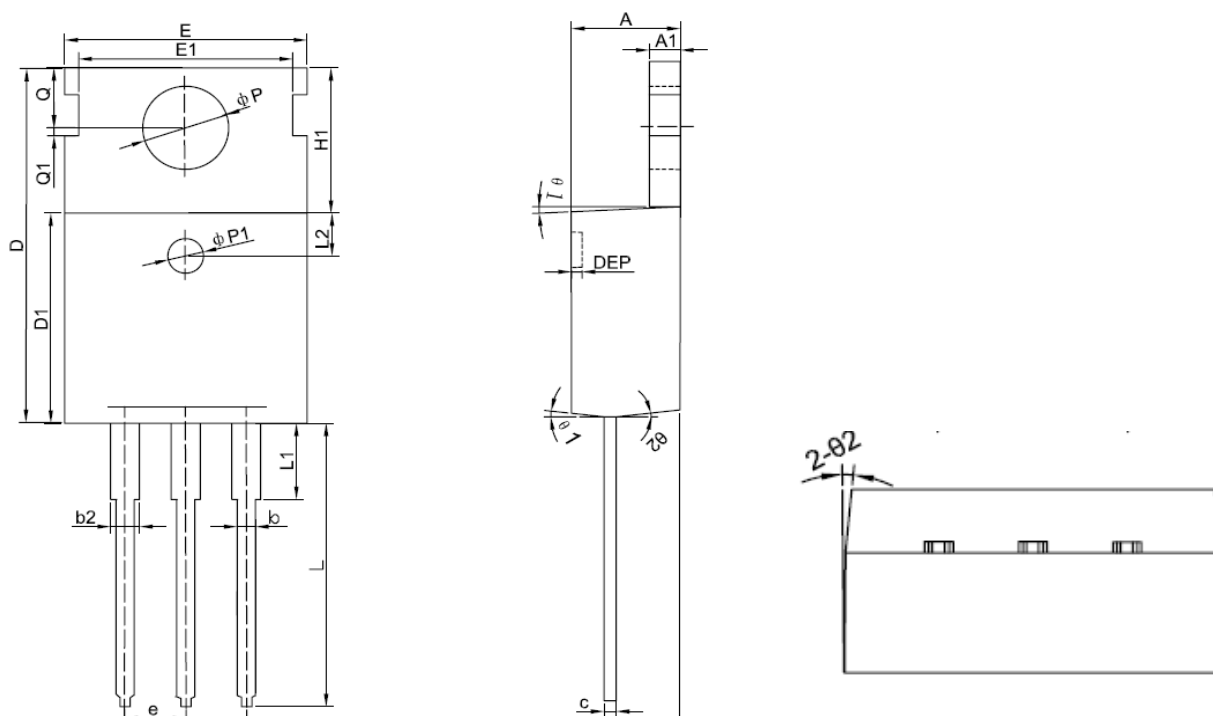
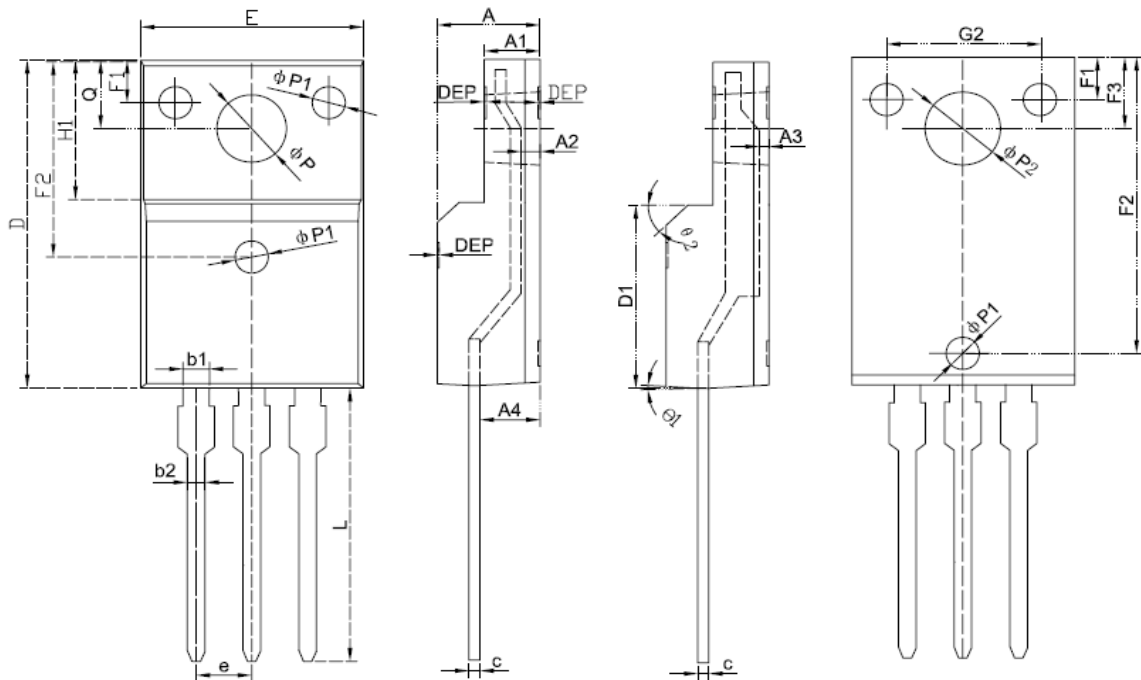


Figure 3: Typical Reverse Characteristics

**Mechanical Data:**
**TO220:**


| Symbol | Dimension In Millimeters |        |        | Dimension In Inches |       |       |
|--------|--------------------------|--------|--------|---------------------|-------|-------|
|        | Min                      | Nom    | Max    | Min                 | Nom   | Max   |
| A      | 4.400                    | 4.550  | 4.700  | 0.173               | 0.179 | 0.185 |
| A1     | 1.270                    | 1.300  | 1.330  | 0.050               | 0.051 | 0.052 |
| A2     | 2.590                    | 2.690  | 2.790  | 0.102               | 0.106 | 0.110 |
| b      | 0.770                    | -      | 0.900  | 0.030               | -     | 0.035 |
| b2     | 1.230                    | -      | 1.360  | 0.048               | -     | 0.054 |
| c      | 0.480                    | 0.500  | 0.520  | 0.019               | 0.020 | 0.020 |
| D      | 15.100                   | 15.400 | 15.700 | -                   | 0.606 | -     |
| D1     | 9.000                    | 9.100  | 9.200  | 0.354               | 0.358 | 0.362 |
| DEP    | 0.050                    | 0.285  | 0.520  | 0.002               | 0.011 | 0.020 |
| E      | 10.060                   | 10.160 | 10.260 | 0.396               | 0.400 | 0.404 |
| E1     | -                        | 8.700  | -      | -                   | 0.343 | -     |
| ΦP1    | 1.400                    | 1.500  | 1.600  | 0.055               | 0.059 | 0.063 |
| e      | 2.54BSC                  |        |        | 0.1BSC              |       |       |
| e1     | 5.08BSC                  |        |        | 0.2BSC              |       |       |
| H1     | 6.100                    | 6.300  | 6.500  | 0.240               | 0.248 | 0.256 |
| L      | 12.750                   | 12.960 | 13.170 | 0.502               | 0.510 | 0.519 |
| L1     | -                        | -      | 3.950  | -                   | -     | 0.156 |
| L2     | 1.85REF                  |        |        | 0.073REF            |       |       |
| ΦP     | 3.570                    | 3.600  | 3.630  | 0.141               | 0.142 | 0.143 |
| Q      | 2.730                    | 2.800  | 2.870  | 0.107               | 0.110 | 0.113 |
| Q1     | -                        | 0.200  | -      | -                   | 0.008 | -     |
| θ1     | 5°                       | 7°     | 9°     | 5°                  | 7°    | 9°    |
| θ2     | 1°                       | 3°     | 5°     | 1°                  | 3°    | 5°    |

**TO220F:**


| Symbol     | Dimension In Millimeters |        |        | Dimension In Inches |       |       |
|------------|--------------------------|--------|--------|---------------------|-------|-------|
|            | Min                      | Nom    | Max    | Min                 | Nom   | Max   |
| E          | 9.960                    | 10.160 | 10.360 | 0.392               | 0.400 | 0.408 |
| A          | 4.500                    | 4.700  | 4.900  | 0.177               | 0.185 | 0.193 |
| A1         | 2.340                    | 2.540  | 2.740  | 0.092               | 0.100 | 0.108 |
| A2         | 0.950                    | 1.050  | 1.150  | 0.037               | 0.041 | 0.045 |
| A3         | 0.420                    | 0.520  | 0.620  | 0.017               | 0.020 | 0.024 |
| A4         | 2.650                    | 2.750  | 2.850  | 0.104               | 0.108 | 0.112 |
| c          | -                        | 0.500  | -      | -                   | 0.020 | -     |
| D          | 15.670                   | 15.870 | 16.070 | 0.617               | 0.625 | 0.633 |
| Q          | 3.200                    | 3.300  | 3.400  | 0.126               | 0.130 | 0.134 |
| H1         | 6.480                    | 6.680  | 6.880  | 0.255               | 0.263 | 0.271 |
| e          | 2.54BSC                  |        |        | 0.10BSC             |       |       |
| $\Phi P$   | -                        | 3.183  | -      | -                   | 0.125 | -     |
| L          | 12.780                   | 12.980 | 13.180 | 0.503               | 0.511 | 0.519 |
| D1         | 8.990                    | 9.190  | 9.390  | 0.354               | 0.362 | 0.370 |
| $\Phi P1$  | 1.400                    | 1.500  | 1.600  | 0.055               | 0.059 | 0.063 |
| $\Phi P2$  | -                        | 3.450  | -      | -                   | 0.136 | -     |
| $\theta 1$ | 4°                       | 5°     | 6°     | 4°                  | 5°    | 6°    |
| $\theta 2$ | -                        | 45°    | -      | -                   | 45°   | -     |
| DEP        | 0.050                    | 0.100  | 0.150  | 0.002               | 0.004 | 0.006 |
| F1         | 1.900                    | 2.000  | 2.100  | 0.075               | 0.079 | 0.083 |
| F2         | 8.980                    | 9.180  | 9.380  | 0.354               | 0.361 | 0.369 |
| F3         | 3.200                    | 3.300  | 3.400  | 0.126               | 0.130 | 0.134 |
| G2         | 6.900                    | 7.000  | 7.100  | 0.272               | 0.276 | 0.280 |
| b1         | 1.170                    | 1.205  | 1.240  | 0.046               | 0.047 | 0.049 |
| b2         | 0.770                    | 0.810  | 0.850  | 0.030               | 0.032 | 0.033 |

**Ordering and Marking Information**
**Device Marking: SSTS2065&SSTS2065F**
**Package (Available)**
**TO-220&TO220F**
**Operating Temperature Range**
**C : -55 to 150 °C**
**Devices per Unit**

| <b>Packag<br/>e Type</b> | <b>Units/<br/>Tube</b> | <b>Tubes/Inne<br/>r<br/>Box</b> | <b>Units/Inne<br/>r<br/>Box</b> | <b>Inner<br/>Boxes/Carton<br/>Box</b> | <b>Units/Carto<br/>n<br/>Box</b> |
|--------------------------|------------------------|---------------------------------|---------------------------------|---------------------------------------|----------------------------------|
| <b>TO220</b>             | 50                     | 20                              | 1000                            | 6                                     | 6000                             |
| <b>TO220F</b>            | 50                     | 20                              | 1000                            | 6                                     | 6000                             |

**Reliability Test Program**

| <b>Test Item</b>                                       | <b>Conditions</b>                                          | <b>Duration</b>                               | <b>Sample Size</b>         |
|--------------------------------------------------------|------------------------------------------------------------|-----------------------------------------------|----------------------------|
| <b>High<br/>Temperature<br/>Reverse<br/>Bias(HTRB)</b> | <b>Tj=125°C to 175°C @<br/>80% of Max<br/>VDSS/VCES/VR</b> | <b>168 hours<br/>500 hours<br/>1000 hours</b> | <b>3 lots x 77 devices</b> |

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