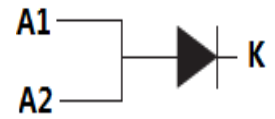


**Main Product Characteristics:**

IF	20A
VRRM	120V
Tj(max)	150°C
Vf(max)	0.9V


**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	120	V
V <sub>R(RMS)</sub>	RMS Reverse Voltage	84	V
I <sub>F(AV)</sub>	Average Forward Current	20	A
I <sub>FSM</sub>	Non Repetitive Surge Forward Current(tp=8.3ms sinusoidal)	200	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)	TO220	2 °C/W
R <sub>θJC</sub>		TO220F	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	120			V	I <sub>R</sub> =0.5mA
V <sub>F</sub>	Forward Voltage Drop			0.7	V	I <sub>F</sub> =10A, T <sub>J</sub> =25°C
				0.9		I <sub>F</sub> =20A, T <sub>J</sub> =25°C
				0.8		I <sub>F</sub> =20A, T <sub>J</sub> =125°C
I <sub>R</sub>	Leakage Current			0.2	mA	V <sub>R</sub> =120V, T <sub>J</sub> =25°C
				20		V <sub>R</sub> =120V, T <sub>J</sub> =125°C

I-V Curves:

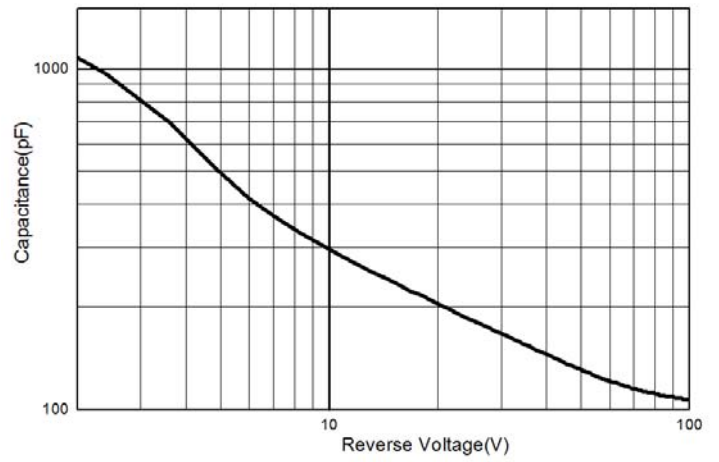
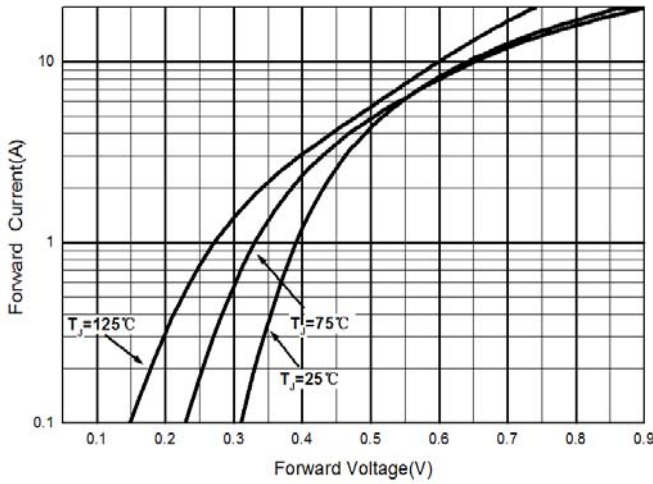


Figure 1: Typical Forward Characteristics

Figure 2: Typical Capacitance Characteristics

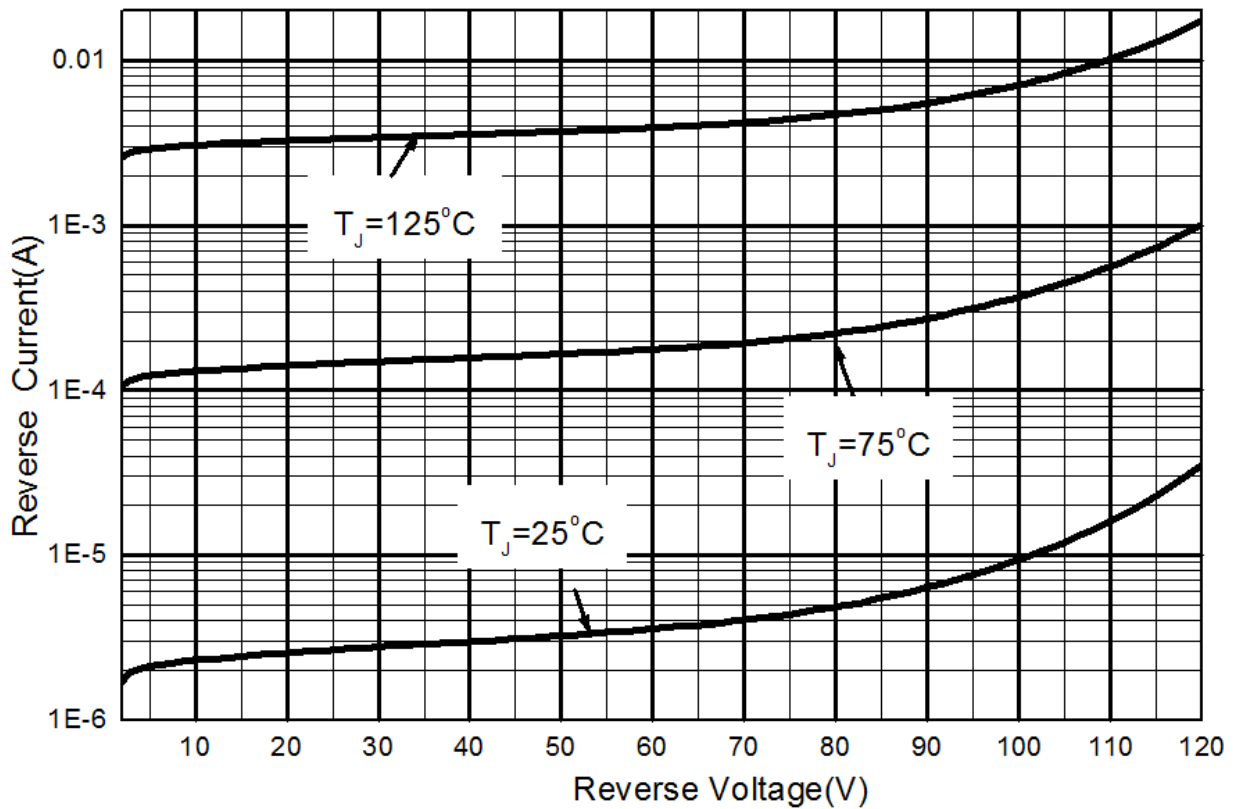
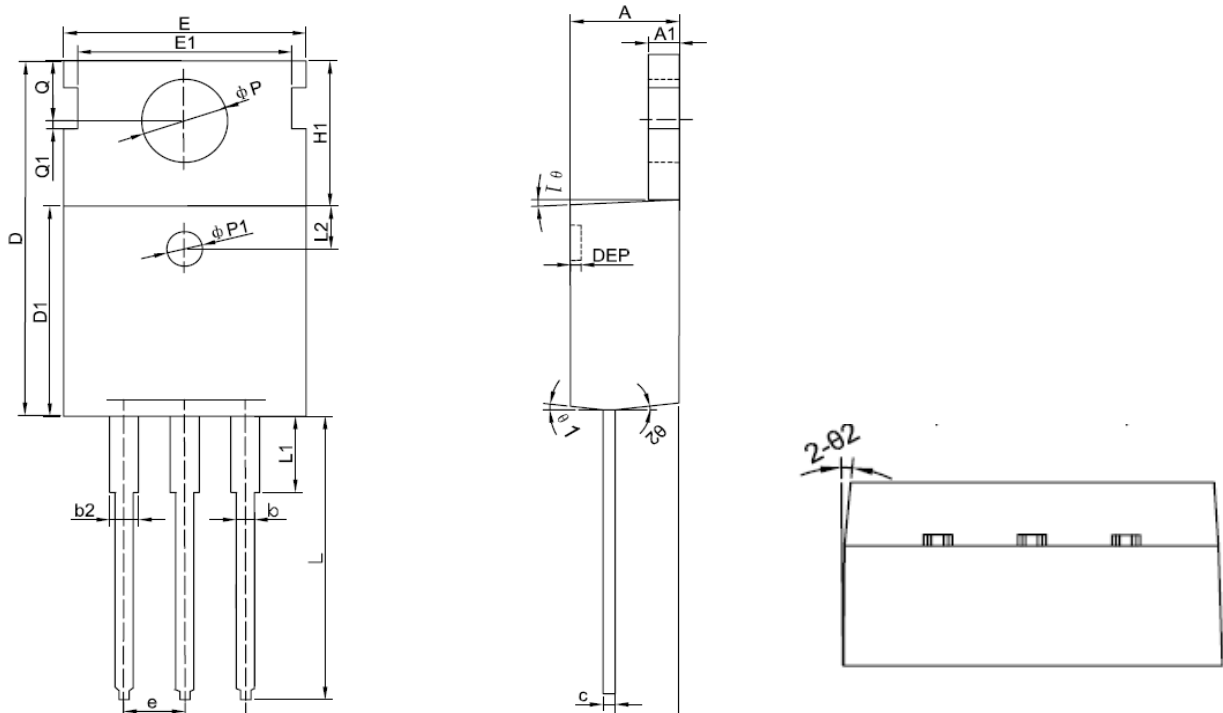
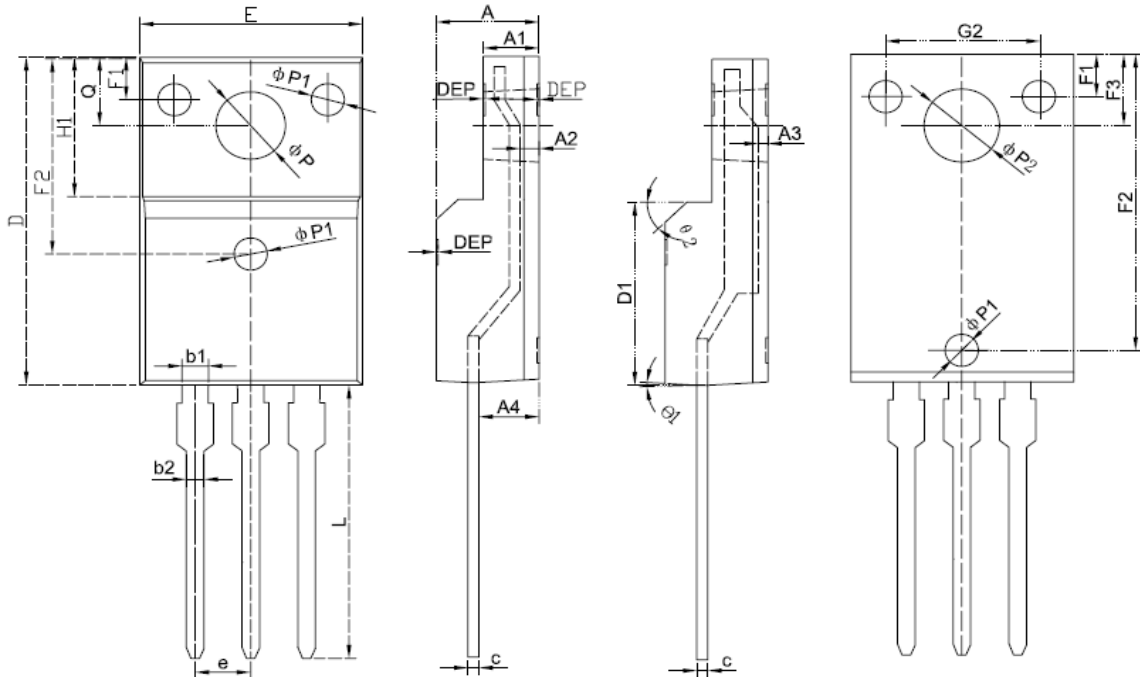


Figure 3: Typical Reverse Characteristics

**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: SSTS20120&SSTS20120F**
**Package (Available)**
**TO-220&TO220F**
**Operating Temperature Range**
**C : -55 to 150 °C**
**Devices per Unit**

<b>Package Type</b>	<b>Units/Tube</b>	<b>Tubes/Inner Box</b>	<b>Units/Inner Box</b>	<b>Inner Boxes/Carton Box</b>	<b>Units/Carton 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 Temperature Reverse Bias(HTRB)</b>	<b>T<sub>j</sub>=125°C to 175°C @ 80% of Max VDSS/VCES/VR</b>	<b>168 hours 500 hours 1000 hours</b>	<b>3 lots x 77 devices</b>

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