

SPST1845	Schottky Barrier Rectifier TO-220 Power Package	Schottky Barrier Rectifier 18 Amperes 45 Volts																																																																																				
Features <ul style="list-style-type: none"> • Metal silicon junction, majority carrier conduction • Highly stable oxide passivated junction • Guardring for stress protection • Low forward voltage drop. • High current capability • High surge capability • High reliability • Ideal for solar panel PV application such as By-Pass diode 		<p style="text-align: center;">TO-220AC</p> <table border="1"> <thead> <tr> <th rowspan="2">DIM</th> <th colspan="2">INCHES</th> <th colspan="2">MILLIMETERS</th> </tr> <tr> <th>MIN</th> <th>MAX</th> <th>MIN</th> <th>MAX</th> </tr> </thead> <tbody> <tr><td>A</td><td>0.595</td><td>0.620</td><td>15.11</td><td>15.75</td></tr> <tr><td>B</td><td>0.380</td><td>0.405</td><td>9.65</td><td>10.29</td></tr> <tr><td>C</td><td>0.160</td><td>0.185</td><td>4.06</td><td>4.69</td></tr> <tr><td>D</td><td>0.025</td><td>0.035</td><td>0.64</td><td>0.89</td></tr> <tr><td>E</td><td>0.142</td><td>0.147</td><td>3.61</td><td>3.73</td></tr> <tr><td>G</td><td>0.190</td><td>0.210</td><td>4.83</td><td>5.33</td></tr> <tr><td>H</td><td>0.110</td><td>0.130</td><td>2.79</td><td>3.30</td></tr> <tr><td>I</td><td>0.018</td><td>0.025</td><td>0.46</td><td>0.64</td></tr> <tr><td>K</td><td>0.500</td><td>0.562</td><td>12.70</td><td>14.27</td></tr> <tr><td>L</td><td>0.025</td><td>0.050</td><td>1.14</td><td>1.52</td></tr> <tr><td>Q</td><td>0.100</td><td>0.120</td><td>2.54</td><td>3.04</td></tr> <tr><td>R</td><td>0.080</td><td>0.110</td><td>2.04</td><td>2.79</td></tr> <tr><td>S</td><td>0.025</td><td>0.055</td><td>1.14</td><td>1.38</td></tr> <tr><td>T</td><td>0.238</td><td>0.255</td><td>6.07</td><td>6.48</td></tr> <tr><td>U</td><td>0.000</td><td>0.050</td><td>0.00</td><td>1.27</td></tr> </tbody> </table>	DIM	INCHES		MILLIMETERS		MIN	MAX	MIN	MAX	A	0.595	0.620	15.11	15.75	B	0.380	0.405	9.65	10.29	C	0.160	0.185	4.06	4.69	D	0.025	0.035	0.64	0.89	E	0.142	0.147	3.61	3.73	G	0.190	0.210	4.83	5.33	H	0.110	0.130	2.79	3.30	I	0.018	0.025	0.46	0.64	K	0.500	0.562	12.70	14.27	L	0.025	0.050	1.14	1.52	Q	0.100	0.120	2.54	3.04	R	0.080	0.110	2.04	2.79	S	0.025	0.055	1.14	1.38	T	0.238	0.255	6.07	6.48	U	0.000	0.050	0.00	1.27
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Mechanical Data <ul style="list-style-type: none"> • Cases: TO-220AC, Epoxy, Molded • Plastic package has Underwriters Laboratory Flammability Classification 94V-0 • Terminals : All Terminal Leads are Readily Solderable • Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds • Weight : 2.01 grams 																																																																																						
Maximum Ratings and Electrical Characteristics (Ta = 25°C unless otherwise noted)																																																																																						
Parameter	Symbols	SPST1845	Units																																																																																			
Maximum Repetitive Reverse Voltage	V_{RRM}	45	Volts																																																																																			
Maximum RMS Voltage	V_{RMS}	31.5	Volts																																																																																			
Maximum DC Blocking Voltage	V_{DC}	45	Volts																																																																																			
Maximum average forward rectified current (see Fig. 1)	$I_{(AV)}$	18.0	Amps																																																																																			
Non-repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave	I_{FSM}	300.0	Amps																																																																																			
Maximum Instantaneous Forward Voltage @ 18.0A (Note 1)	V_F	0.55	Volts																																																																																			
Maximum Instantaneous Reverse Current at Rated DC Blocking Voltage (Note1)	Ta = 25°C	0.5	mA																																																																																			
	Ta = 100°C	50.0																																																																																				
Typical Thermal Resistance (Note 2)	$R_{\theta JC}$	1.5	°C/W																																																																																			
Storage Temperature Range	T_{stg}	-65 to +150	°C																																																																																			
Operating Junction Temperature	T_J	-50 to +200	°C																																																																																			
In DC Forward Mode	T_J	200 max	°C																																																																																			

Notes: 1. Pulse test with PW=300 usec, 1% duty cycle.

2. Leads are kept at ambient temperature at a distance of 10 mm from case.

Typical Characteristics

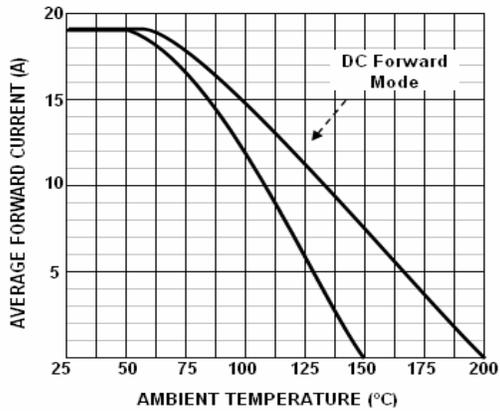


Figure 1. Forward Current Derating Curve

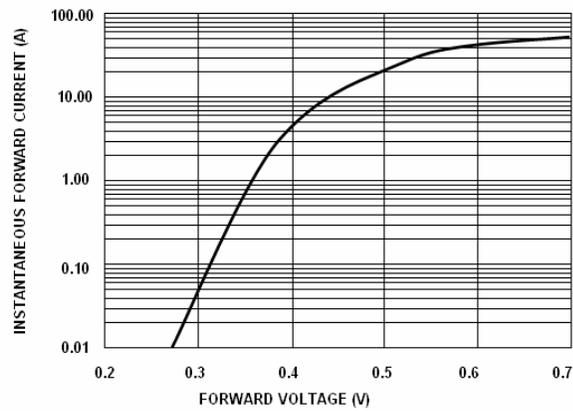


Figure 2. Forward Voltage Characteristics

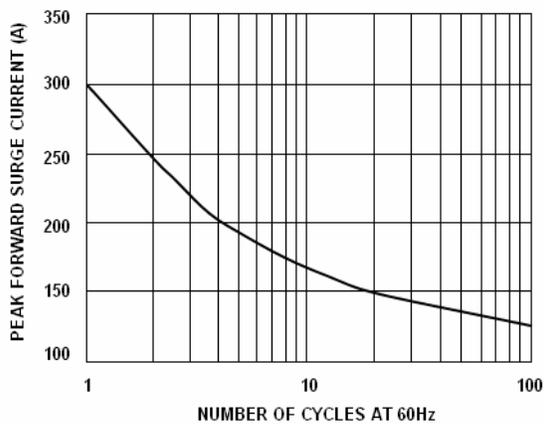


Figure 3. Non-Repetitive Surge Current

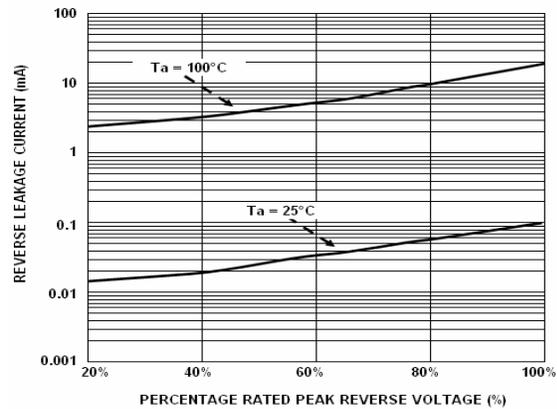


Figure 4. Reverse Current Characteristics