

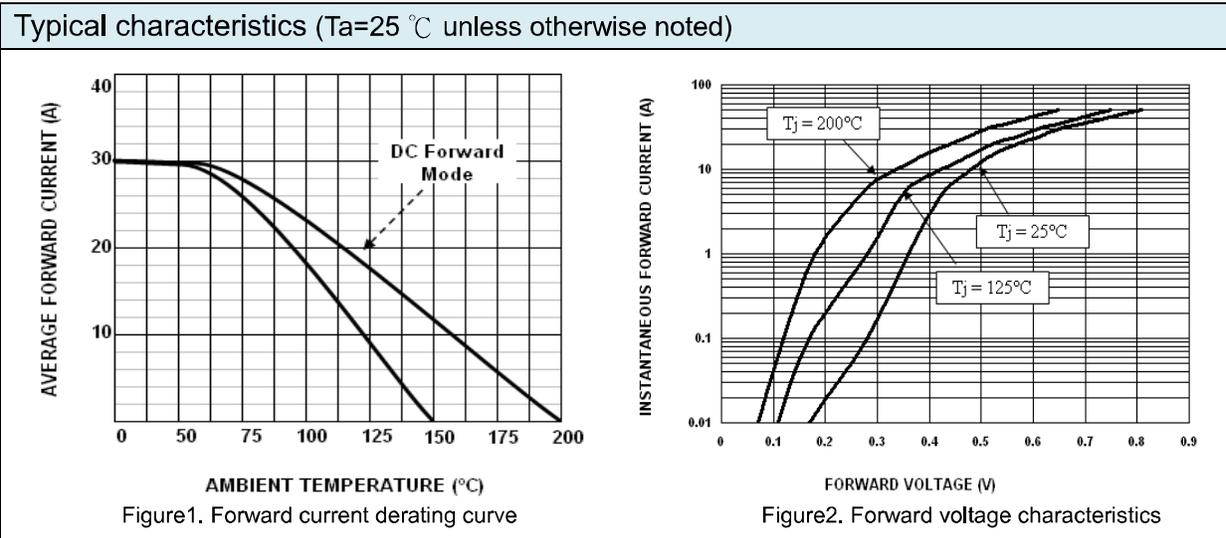
<p><u>R-7</u></p>  <p>Anode  Cathod</p>		<p>Features</p> <ul style="list-style-type: none"> • ROHS Compliant • Metal silicon junction, majority carrier conduction • Guard ring for stress protection • Low forward voltage drop • High forward surge capability • High current capability • Solder dip 260°C / 10S 																																													
<p>Primary characteristics</p> <table border="1"> <tr> <td>$I_{F(AV)}$</td> <td>30A</td> </tr> <tr> <td>V_{RRM}</td> <td>60V</td> </tr> <tr> <td>I_{FSM}</td> <td>400A</td> </tr> <tr> <td>V_F</td> <td>0.65V</td> </tr> <tr> <td>T_J max.</td> <td>150°C</td> </tr> <tr> <td>DC forward mode</td> <td>200°C</td> </tr> </table>		$I_{F(AV)}$	30A	V_{RRM}	60V	I_{FSM}	400A	V_F	0.65V	T_J max.	150°C	DC forward mode	200°C	<p>Applications</p> <p>Ideal for solar PV application such as by-pass diode</p>																																	
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		<p>Mechanical data</p> <ul style="list-style-type: none"> • Case: R-7 Axial-leaded, molded plastic • Epoxy meets UL 94 V-0 flammability rating • Terminals: Tin plated leads. • Polarity: As marked • Weight: 2.10 grams 																																													
<p>Maximum rating ($T_a=25^\circ\text{C}$ unless otherwise noted)</p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Symbol</th> <th>SPSL3060</th> <th>Unit</th> </tr> </thead> <tbody> <tr> <td>Max. repetitive peak reverse voltage</td> <td>V_{RRM}</td> <td>60</td> <td>V</td> </tr> <tr> <td>Max. RMS reverse voltage</td> <td>V_{RMS}</td> <td>42</td> <td></td> </tr> <tr> <td>Max. DC blocking voltage</td> <td>V_{DC}</td> <td>60</td> <td>V</td> </tr> <tr> <td>Max. average forward current (see Fig.1)</td> <td>$I_{F(AV)}$</td> <td>30</td> <td>A</td> </tr> <tr> <td>Non-repetitive peak forward surge current 8.3ms single half-sine-wave</td> <td>I_{FSM}</td> <td>400</td> <td>A</td> </tr> <tr> <td>Rating for fusing, $1\text{ms} \leq t \leq 8.3\text{ms}$</td> <td>$I^2t$</td> <td>664</td> <td>$\text{A}^2\text{S}$</td> </tr> <tr> <td>Operating junction temperature</td> <td>T_J</td> <td>-50 ~ +150</td> <td>°C</td> </tr> <tr> <td>Max. junction temperature in DC forward mode</td> <td>T_J</td> <td>200</td> <td>°C</td> </tr> <tr> <td>Storage temperature</td> <td>T_{STG}</td> <td>-50 ~ +150</td> <td>°C</td> </tr> <tr> <td>Thermal resistance junction to ambient⁽¹⁾</td> <td>$R_{\theta J-A}$</td> <td>9</td> <td>°C/W</td> </tr> </tbody> </table>				Parameter	Symbol	SPSL3060	Unit	Max. repetitive peak reverse voltage	V_{RRM}	60	V	Max. RMS reverse voltage	V_{RMS}	42		Max. DC blocking voltage	V_{DC}	60	V	Max. average forward current (see Fig.1)	$I_{F(AV)}$	30	A	Non-repetitive peak forward surge current 8.3ms single half-sine-wave	I_{FSM}	400	A	Rating for fusing, $1\text{ms} \leq t \leq 8.3\text{ms}$	I^2t	664	A^2S	Operating junction temperature	T_J	-50 ~ +150	°C	Max. junction temperature in DC forward mode	T_J	200	°C	Storage temperature	T_{STG}	-50 ~ +150	°C	Thermal resistance junction to ambient ⁽¹⁾	$R_{\theta J-A}$	9	°C/W
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Note: (1) Leads are kept at ambient temperature at a distance of 10 mm from case

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

Maximum rating ($T_a=25\text{ }^\circ\text{C}$ unless otherwise noted)							
Parameter	Test condition		Symbol	Min.	Typ.	Max.	Unit
Forward voltage drop ⁽²⁾	$T_J=25\text{ }^\circ\text{C}$	$I_F=5\text{A}$	V_F	-	0.43	0.45	V
	$T_J=125\text{ }^\circ\text{C}$			-	0.33	-	V
	$T_J=200\text{ }^\circ\text{C}$			-	0.25	-	V
	$T_J=25\text{ }^\circ\text{C}$	$I_F=8\text{A}$	V_F	-	0.46	0.50	V
	$T_J=125\text{ }^\circ\text{C}$			-	0.39	-	V
	$T_J=200\text{ }^\circ\text{C}$			-	0.31	-	V
	$T_J=25\text{ }^\circ\text{C}$	$I_F=12\text{A}$	V_F	-	0.50	-	V
	$T_J=125\text{ }^\circ\text{C}$			-	0.45	-	V
	$T_J=200\text{ }^\circ\text{C}$			-	0.36	-	V
	$T_J=25\text{ }^\circ\text{C}$	$I_F=20\text{A}$	V_F	-	0.65	0.68	V
	$T_J=125\text{ }^\circ\text{C}$			-	0.61	-	V
	$T_J=200\text{ }^\circ\text{C}$			-	0.51	-	V
Reverse leakage current	$T_J=25\text{ }^\circ\text{C}$	$V_R=V_{RRM}$	I_R	-	0.03	0.5	mA
	$T_J=100\text{ }^\circ\text{C}$			-	-	50.0	mA

Note: (1) Leads are kept at ambient temperature at a distance of 10 mm from case
 (2) Pulse test with $PW=300\mu\text{s}$, 1% duty cycle.



Typical characteristics (Ta=25 °C unless otherwise noted)

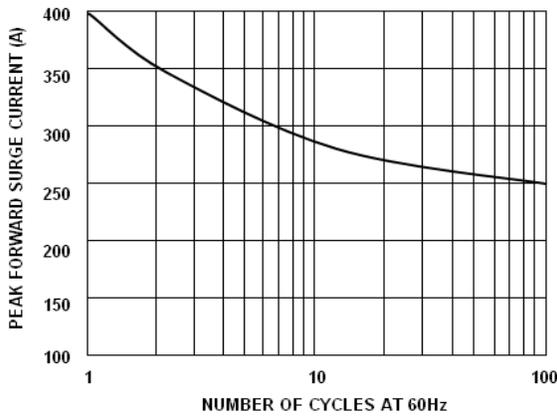


Figure3. Non-repetitive surge current

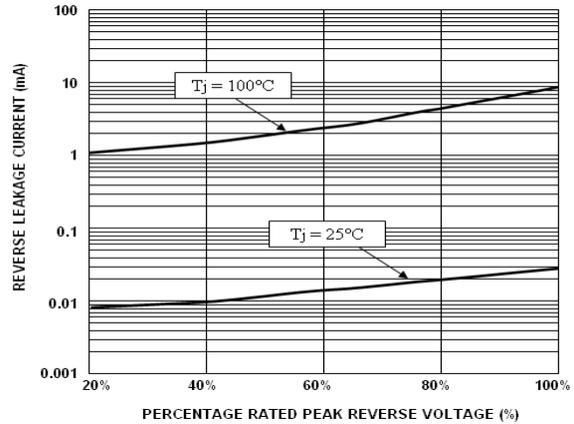
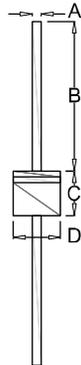


Figure4. Reverse current characteristics

Package outline dimensions



Dim.	Inches		Millimeters	
	Min.	Max.	Min.	Max.
A	0.059	0.063	1.50	1.60
B	1		25.40	
C	0.291	0.299	7.40	7.60
D	0.311	0.319	7.90	8.10

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