



**SOLID STATE DEVICES, INC.**

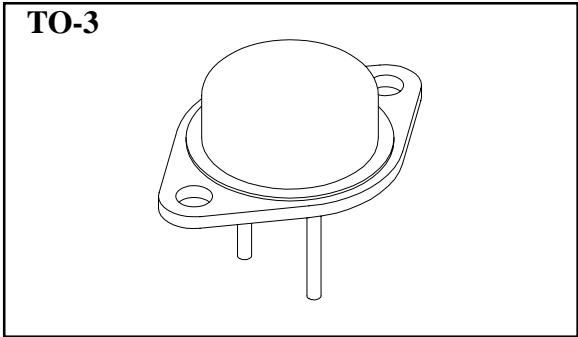
14830 Valley View Blvd \* La Mirada, Ca 90638  
 Phone: (562) 404-7855 \* Fax: (562) 404-1773  
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**DESIGNER'S DATA SHEET**

- FEATURES:**
- Low RDS (on) and High Transconductance
  - Excellent High Temperature Stability
  - Fast Switching Speed
  - Intrinsic Rectifier
  - Hermetically Sealed Package
  - TX, TXV, and Space Level Screening Available

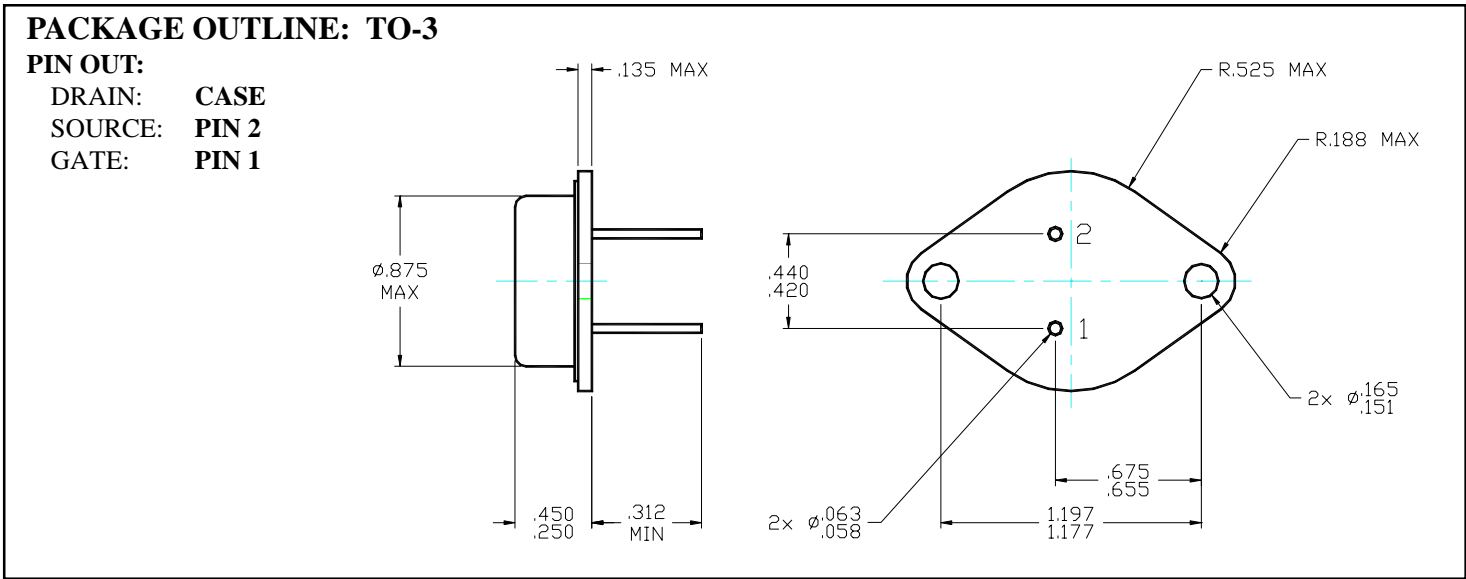
**SFF15N80/3**

**15 AMPS  
 800 VOLTS  
 0.60 Ω  
 N-CHANNEL  
 POWER MOSFET**



**MAXIMUM RATINGS**

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V <sub>DSS</sub>	800	Volts
Gate to Source Voltage	V <sub>GS</sub>	±20	Volts
Continuous Drain Current	I <sub>D</sub>	15	Amps
Operating and Storage Temperature	T <sub>op</sub> & T <sub>stg</sub>	-55 to +150	°C
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	0.42	°C/W
Total Device Dissipation @ TC = 25°C	P <sub>D</sub>	300	Watts



**NOTE:** All specifications are subject to change without notification. SCDs for these devices should be reviewed by SSDI prior to release.

**DATA SHEET #: FT0006C**

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**ELECTRICAL CHARACTERISTICS @ T<sub>J</sub> = 25°C (Unless Otherwise Specified)**

RATING		SYMBOL	MIN	TYP	MAX	UNIT
<b>Drain to Source Breakdown Voltage</b> (V <sub>GS</sub> = 0 V, I <sub>D</sub> = 3mA)		<b>BV<sub>DSS</sub></b>	800	-	-	<b>V</b>
<b>Drain to Source ON State Resistance</b> (V <sub>GS</sub> = 10 V, I <sub>D</sub> = 7.5A)		<b>R<sub>DS(on)</sub></b>	-	-	0.65	<b>Ω</b>
<b>Gate Threshold Voltage</b> (V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 4mA)		<b>V<sub>GS(th)</sub></b>	2.0	-	4.5	<b>V</b>
<b>Zero Gate Voltage Drain Current</b> (V <sub>DS</sub> = 640V, V <sub>GS</sub> = 0V)	T <sub>A</sub> = 25°C T <sub>A</sub> = 125°C	<b>I<sub>DSS</sub></b>	- -	- -	250 1000	<b>μA</b>
<b>Gate to Source Leakage Forward</b> (V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V)		<b>I<sub>GSS</sub></b>	-	-	±100	<b>nA</b>
<b>Input Capacitance</b>	V <sub>GS</sub> = 0 Volts	<b>C<sub>iss</sub></b>	3965	-	4870	<b>pF</b>
<b>Output Capacitance</b>	V <sub>DS</sub> = 25 Volts	<b>C<sub>oss</sub></b>	315	-	395	
<b>Reverse Transfer Capacitance</b>	f = 1 MHz	<b>C<sub>rss</sub></b>	73	-	120	
<b>Total Gate Charge</b>	V <sub>GS</sub> = 10 V	<b>Q<sub>g</sub></b>	-	128	155	<b>nC</b>
<b>Gate to Source Charge</b>	V <sub>DS</sub> = 400V	<b>Q<sub>gs</sub></b>	-	30	45	
<b>Gate to Drain Charge</b>	I <sub>D</sub> = 7.5A	<b>Q<sub>gd</sub></b>	-	55	80	
<b>Turn on Delay Time</b>	V <sub>GS</sub> = 10V	<b>t<sub>d (on)</sub></b>	-	20	50	<b>nsec</b>
<b>Rise Time</b>	V <sub>DD</sub> = 400V	<b>t<sub>r</sub></b>	-	33	50	
<b>Turn off Delay Time</b>	I <sub>D</sub> = 7.5A	<b>t<sub>d (off)</sub></b>	-	63	100	
<b>Fall Time</b>	R <sub>G</sub> = 2 Ω	<b>t<sub>f</sub></b>	-	32	50	
<b>Diode Forward Voltage</b> (I <sub>S</sub> = 15A, V <sub>GS</sub> = 0V, T <sub>J</sub> = 25°C)		<b>V<sub>SD</sub></b>	-	-	1.50	<b>V</b>
<b>Diode Reverse Recovery Time</b>	I <sub>F</sub> = 15A, V <sub>R</sub> = 100V di/dt = 100A/μsec	<b>t<sub>rr</sub></b>	-	-	800	<b>nsec</b>

**NOTES:**