

SOLID STATE DEVICES, INC.

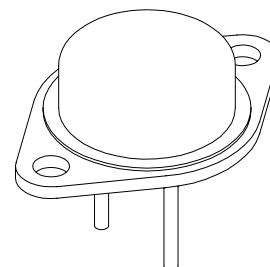
14830 Valley View Blvd * La Mirada, Ca 90638
 Phone: (562) 404-7855 * Fax: (562) 404-1773
 ssdi@ssdi-power.com * www.ssdi-power.com

DESIGNER'S DATA SHEET

SFF15N80/3

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

TO-3



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

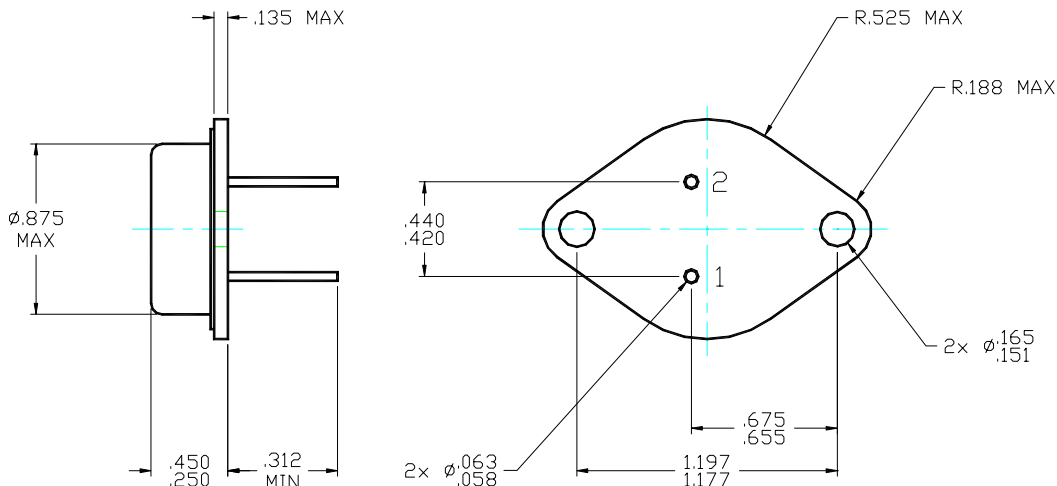
MAXIMUM RATINGS

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

PACKAGE OUTLINE: TO-3

PIN OUT:

DRAIN: CASE
 SOURCE: PIN 2
 GATE: PIN 1



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

ELECTRICAL CHARACTERISTICS @ $T_J = 25^\circ\text{C}$ (Unless Otherwise Specified)

RATING		SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage ($V_{GS} = 0\text{ V}$, $I_D = 3\text{mA}$)		BV_{DSS}	800	-	-	V
Drain to Source ON State Resistance ($V_{GS} = 10\text{ V}$, $I_D = 7.5\text{A}$)		$R_{DS(on)}$	-	-	0.65	Ω
Gate Threshold Voltage ($V_{DS} = V_{GS}$, $I_D = 4\text{mA}$)		$V_{GS(th)}$	2.0	-	4.5	V
Zero Gate Voltage Drain Current ($V_{DS} = 640\text{V}$, $V_{GS} = 0\text{V}$)	$T_A = 25^\circ\text{C}$ $T_A = 125^\circ\text{C}$	I_{DSS}	- -	- -	250 1000	μA
Gate to Source Leakage Forward ($V_{GS} = \pm 20\text{V}$, $V_{DS} = 0\text{V}$)		I_{GSS}	-	-	± 100	nA
Input Capacitance	$V_{GS} = 0\text{ Volts}$	C_{iss}	3965	-	4870	pF
Output Capacitance	$V_{DS} = 25\text{ Volts}$	C_{oss}	315	-	395	
Reverse Transfer Capacitance	$f = 1\text{ MHz}$	C_{rss}	73	-	120	
Total Gate Charge	$V_{GS} = 10\text{ V}$	Q_g	-	128	155	nC
Gate to Source Charge	$V_{DS} = 400\text{V}$	Q_{gs}	-	30	45	
Gate to Drain Charge	$I_D = 7.5\text{A}$	Q_{gd}	-	55	80	
Turn on Delay Time	$V_{GS} = 10\text{V}$	$t_d(on)$	-	20	50	nsec
Rise Time	$V_{DD} = 400\text{V}$	t_r	-	33	50	
Turn off Delay Time	$I_D = 7.5\text{A}$	$t_d(off)$	-	63	100	
Fall Time	$R_G = 2\ \Omega$	t_f	-	32	50	
Diode Forward Voltage ($I_S = 15\text{A}$, $V_{GS} = 0\text{V}$, $T_J = 25^\circ\text{C}$)		V_{SD}	-	-	1.50	V
Diode Reverse Recovery Time	$I_F = 15\text{A}$, $V_R = 100\text{V}$ $di/dt = 100\text{A}/\mu\text{sec}$	t_{rr}	-	-	800	nsec

NOTES: