Solid State Devices, Inc.
14701 Firestone Blvd * La Mirada, Ca 90638
Phone: (562) 404-7855 * Fax: (562) 404-1773
ssdi@ssdi-power.com * www.ssdi-power.com

SFF130/3 & SFF130/66

DESIGNER'S DATA SHEET

14 AMP / 100 Volts
0.18 Ω
N-Channel Power MOSFET

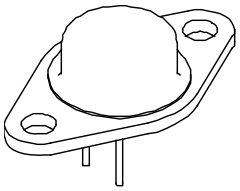
Part Number / Ordering Information [1/]

SFF130 _ _

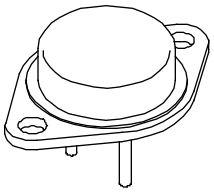
Screening [2/]
__ = Not Screen
TX = TX Level
TXV = TXV Level
S = S Level

Package
/3= TO-3
/66= TO-66

TO-66



TO-3

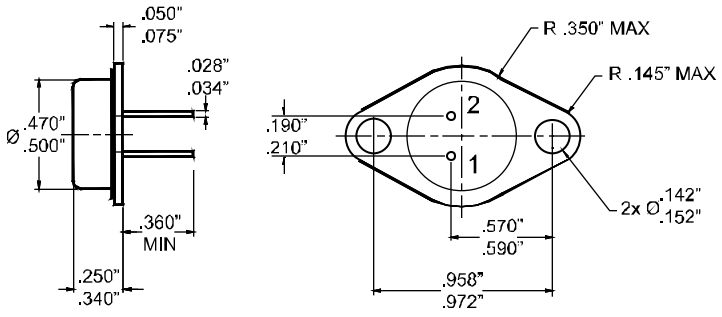


Features:

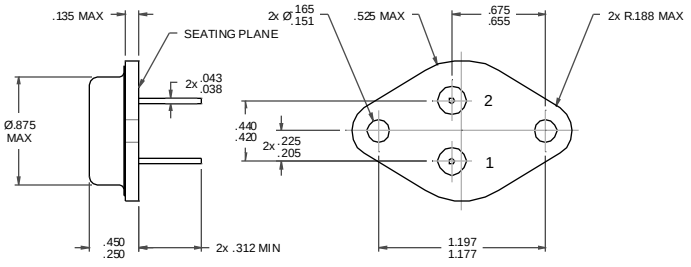
- Rugged Construction with Poly Silicon Gate
- Low $R_{DS(ON)}$ and High Transconductance
- Excellent High Temperature Stability
- Very Fast Switching Speed
- Fast Recovery and Superior dV/dt Performance
- Increased Reverse Energy Capability
- Low Input and Transfer Capacitance for Easy Paralleling
- Hermetically Sealed Package
- Available in both hot case and isolated versions
- Ideal for low power applications
- TX, TXV, Space Level Screening Available [2/]
- Replacement for IRFF130 & 2N6756 Types

Maximum Ratings [3/]		Symbol	Value	Units
Drain – Source Voltage		V_{DS}	100	**Volts**
Gate – Source Voltage		V_{GS}	±20	**Volts**
Continuous Collector Current	T_C = 25ºC T_C = 100ºC	I_D	14 9	**Amps**
Power Dissipation	T_C = 25ºC T_A = 25ºC	P_D	25 19	**Watts**
Operating & Storage Temperature		**Top & Tstg**	-55 to +150	**ºC**
Thermal Resistance Junction to Case		$R_{\theta JC}$	5	**ºC/W**
Single Pulse Avalanche Energy		E_{AS}	75	**mJ**
Repetitive Avalanche Energy		E_{AR}	7.5	**mJ**

TO-66



TO-3



NOTES: 1/ For Ordering Information, Price, Operating Curves, and Availability- Contact Factory.

2/ Screened to MIL-PRF-19500/542.

3/ Unless Otherwise Specified, All Maximum Ratings and Electrical Characteristics @25ºC.

NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.	**DATA SHEET #: F00307B**	**DOC**

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Electrical Characteristics @ T_J = 25°C (Unless Otherwise Specified)		Symbol	Min	Typ	Max	Units
Drain to Source Breakdown Voltage (VGS=0 V, ID=250 μA)		BV_{DSS}	100	—	—	**Volts**
Temperature Coefficient of Breakdown Voltage		$\frac{\Delta BV_{DSS}}{\Delta Tj}$	—	130	—	**mV/ °C**
Drain to Source On State Resistance (VGS=10 V)	ID=9A ID=14A	$R_{DS(on)}$	—	0.13 0.14	0.18 0.21	**Ω**
Gate Threshold Voltage (VDS=VGS, ID=250 μA)		$V_{GS(th)}$	2.0	2.8	4.0	**V**
Forward Transconductance (VDS>ID(on) X RDS(on) Max, IDS= 9A)		g_{fs}	4.6	7	—	**mho**
Zero Gate Voltage Drain Current (VDS=80% max rated voltage, VGS=0 V) (VDS=80% rated VDS, VGS=0 V, TA=125ºC)		I_{DSS}	— —	— —	25 250	**μA**
Gate to Source Leakage Forward **Gate to Source Leakage Reverse**	At rated VGS	I_{GSS}	— —	— —	+100 -100	**nA**
Total Gate Charge **Gate to Source Charge** **Gate to Drain Charge**	VGS=10 Volts 50% rated VDS Rated ID	Q_g Q_{gs} Q_{gd}	12 1.5 5	17 3.7 7.0	35 10 20	**nC**
Turn on Delay Time **Rise Time** **Turn on Delay Time** **Fall Time**	VDD=50% Rated VDS 50% rated ID RG= 7.5Ω	$t_{d(on)}$ t_r $t_{d(off)}$ t_f	— — — —	9.5 42 22 25	35 80 60 45	**nsec**
Diode Forward Voltage (IS= Rated ID, VGS=0 V, TJ=25ºC)		V_{SD}	—	1	1.5	**V**
Diode Reverse Recovery Time **Reverse Recovery Charge**	T_J=25ºC IF=10A Di/dt=100A/μsec	t_{rr} Q_{RR}	— —	120 0.58	300 3	**nsec** **μC**
Input Capacitance **Output Capacitance** **Reverse Transfer Capacitance**	VGS=0 Volts VDS=25 Volts f=1 MHz	C_{iss} C_{oss} C_{rss}	— — —	650 250 44	— — —	**pF**

For thermal derating curves and other characteristics please contact SSDI Marketing Department.

Available Part Number:

SFF130/3; SFF130/66

PIN ASSIGNMENT (Standard)			
Package	**Drain**	**Source**	**Gate**
TO-3	Case	Pin 2	Pin 1
TO-66	Case	Pin 2	Pin 1