

SFF430/5

14849 Firestone Boulevard · La Mirada, CA 90638
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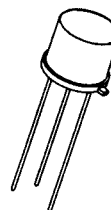
Designer's Data Sheet

FEATURES:

- Rugged construction with polysilicon gate
- Low RDS(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
- Ceramic Seals for improved hermeticity
- Hermetically sealed package
- TX, TXV and Space Level screening available
- Replaces: IRF430 Types

**4.5 AMP
 500 VOLTS
 1.6 Ω
 N-CHANNEL
 POWER MOSFET**

TO-5



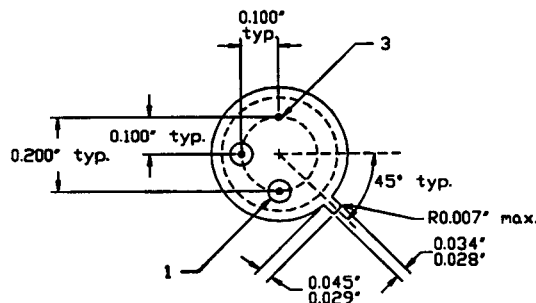
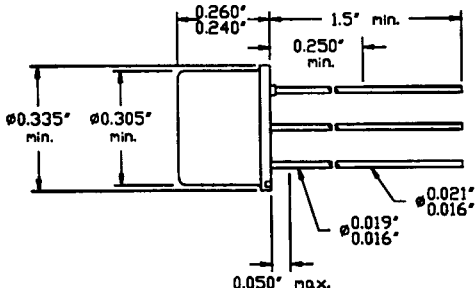
MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V _{DS}	500	Volts
Gate to Source Voltage	V _{GS}	± 20	Volts
Continuous Drain Current	I _D	4.5	Amps
Operating and Storage Temperature	T _{op} & T _{stg}	-55 to +150	°C
Thermal Resistance, Junction to Case	R _{θJC}	5	°C/W
Total Device Dissipation @ TC=25°C	P _D	25	Watts
Total Device Dissipation @ TC=55°C		19	

PACKAGE OUTLINE: TO-5

PIN OUT:

**PIN 1: SOURCE
 PIN 2: GATE
 PIN 3: DRAIN**



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

DATA SHEET #: F00117 B

MED

PRELIMINARY



SOLID STATE DEVICES, INC

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ELECTRICAL CHARACTERISTICS @ T_J=25° C (Unless Otherwise Specified)

RATING	SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (V _{GS} =0 V, I _D =250μA)	BV _{DSS}	500	---	---	V
Drain to Source on State Resistance (V _{GS} =10 V, I _D = 2.5 A)	R _{DS(on)}	---	1.5	1.6	Ω
On State Drain Current (V _{DS} > I _{D(on)} X R _{DS(on)} Max, V _{GS} =10 V)	I _{D(on)}	4.5	---	---	A
Gate Threshold Voltage (V _{DS} =V _{GS} , I _D =250μA)	V _{GS(th)}	2.0	---	4.0	V
Forward Transconductance (V _{DS} ≥ 10 V, I _{DS} = 2.5 A)	g _{fs}	2.7	4.1	---	S(Ω)
Zero Gate Voltage Drain Current (V _{DS} =max rated voltage, V _{GS} =0 V) (V _{DS} =80% rated V _{DS} , V _{GS} =0 V, T _A =125° C)	I _{DSS}	---	---	250 1000	μA
Gate to Source Leakage Forward Gate to Source Leakage Reverse	I _{GSS}	---	---	100 -100	nA
Total Gate Charge Gate to Source Charge Gate to Drain Charge	Q _g Q _{gs} Q _{gd}	---	21 3.2 11	32 4.8 17	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	t _{d(on)} t _r t _{d(off)} t _f	---	11 15 35 15	17 23 53 23	nsec
Diode Forward Voltage (I _S =rated I _D , V _{GS} =0 V, T _J =25° C)	V _{SD}	---	---	1.6	V
Diode Reverse Recovery Time Reverse Recovery Charge	t _{rr} Q _{RR}	180 0.96	370 2.0	760 4.3	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	C _{iss} C _{oss} C _{rss}	---	610 91 18	---	pF

SAFE OPERATING AREA (S.O.A.)
 T_C = 25 C, D.C. CONDITION

