



PRELIMINARY

SOLID STATE DEVICES, INC

14849 Firestone Boulevard · La Mirada, CA 90638
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424

SFL024/5

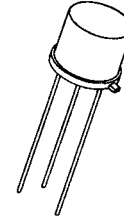
Designer's Data Sheet

FEATURES:

- Rugged construction with poly silicon 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
- Hermetically sealed package
- TX, TXV and Space Level screening available
- Replaces: IRF024 Types

**10 AMP
60 VOLTS
0.10 Ω
N-CHANNEL LOGIC LEVEL
POWER MOSFET**

TO-5



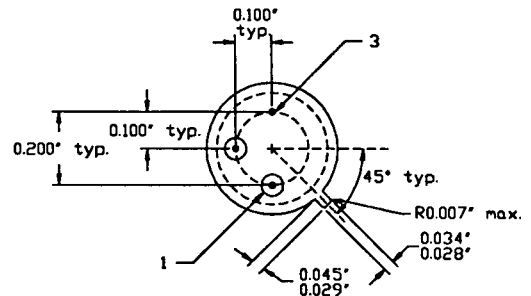
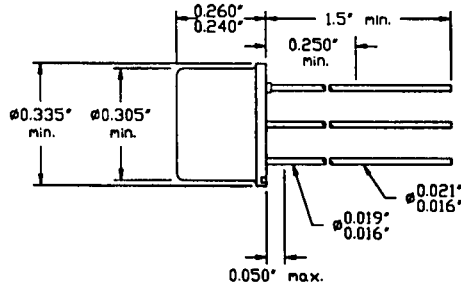
MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	VALUE	UNIT
Drain to Source Voltage	V _{DS}	60	Volts
Gate to Source Voltage	V _{GS}	±10	Volts
Continuous Drain Current	I _D	10	Amps
Operating and Storage Temperature	T _{op} & T _{stg}	-55 to +150	°C
Thermal Resistance, Junction to Case	R _{θJC}	6.0	°C/W
Total Device Dissipation @ TC=25°C Total Device Dissipation @ TC=55°C	P _D	20 16	Watts

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 #: F00235 A

MED

SFL024/5

PRELIMINARY

SSDI

SOLID STATE DEVICES, INC

14849 Firestone Boulevard · La Mirada, CA 90638
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424**ELECTRICAL CHARACTERISTICS @ T_J=25° C (Unless Otherwise Specified)**

RATING		SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (VGS=0 V, ID=250 μ A)		BV _{DSS}	60	---	---	V
Drain to Source on State Resistance (VGS= 5 V, ID=60% Rated ID)		R _{DS(on)}	---	---	0.10	Ω
On State Drain Current (VDS > ID(on) X R _{DS(on)} Max, VGS= 5 V)		ID(on)	10	---	---	A
Gate Threshold Voltage (VDS=VGS, ID=250 μ A)		VGS(th)	1.0	---	2.0	V
Forward Transconductance (VDS > ID(on) X R _{DS(on)} Max, IDS=6.3 A)		g _{fs}	7.9	---	---	S(\bar{v})
Zero Gate Voltage Drain Current (VDS=max rated voltage, VGS=0 V) (VDS=80% rated VDS, VGS=0 V, TA=125° C)		I _{DSS}	---	---	250 1000	μ A
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=5 Volts 80% rated VDS ID=16 Amps	Q _g Q _{gs} Q _{gd}	---	---	18 4.5 12	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	VDD=50% rated VDS ID=10 A RG= 18 Ω	t _{d(on)} t _r t _{d(off)} t _f	---	---	17 165 35 62	nsec
Diode Forward Voltage (IS=rated ID, VGS=0 V, T _J =25° C)		V _{SD}	---	---	2.5	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25° C IF=16 Amps di/dt=100 A/ μ sec	t _{rr} Q _{RR}	70 0.19	---	140 0.78	nsec μ C
Input Capacitance Output Capacitance Reverse Transfer Capacitance	VGS=0 Volts VDS=25 Volts f= 1 MHz	C _{iss} C _{oss} C _{rss}	---	880 350 54	---	pF

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