



PRELIMINARY

SOLID STATE DEVICES, INC

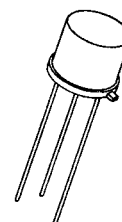
SFL024/5

14849 Firestone Boulevard · La Mirada, CA 90638
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424**Designer's Data Sheet****FEATURES:**

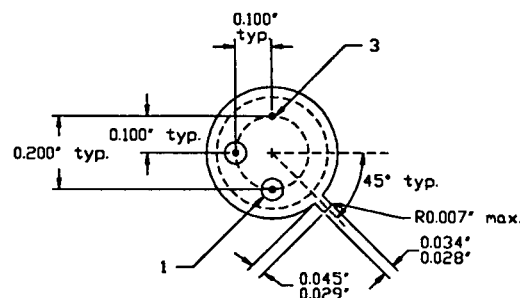
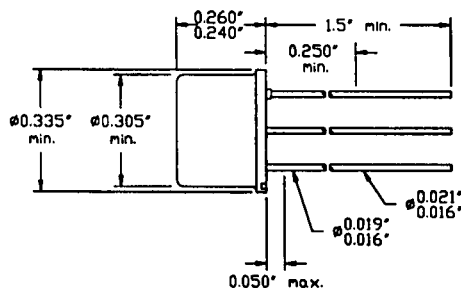
- Rugged construction with poly silicon gate
- Low $R_{DS(on)}$ and high transconductance
- Excellent high temperature stability
- Very fast switching speed
- Fast recovery and superior dv/dt performance
- Increased reverse energy capability
- Low input and transfer capacitance for easy paralleling
- Hermetically sealed package
- 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	$T_{op} \text{ \& } T_{stg}$	-55 to +150	$^{\circ}C$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	6.0	$^{\circ}C/W$
Total Device Dissipation @ $T_C=25^{\circ}C$ Total Device Dissipation @ $T_C=55^{\circ}C$	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

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SFL024/5

PRELIMINARY

SSDI

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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 (V _{GS} =0 V, I _D =250μA)		BV _{DSS}	60	---	---	V
Drain to Source on State Resistance (V _{GS} = 5 V, I _D =60% Rated ID)		R _{DS(on)}	---	---	0.10	Ω
On State Drain Current (V _{DS} > I _{D(on)} X R _{DS(on)} Max, V _{GS} = 5 V)		I _{D(on)}	10	---	---	A
Gate Threshold Voltage (V _{DS} =V _{GS} , I _D =250μA)		V _{GS(th)}	1.0	---	2.0	V
Forward Transconductance (V _{DS} > I _{D(on)} X R _{DS(on)} Max, I _{DS} =6.3 A)		g _{fs}	7.9	---	---	S(V)
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	At rated V _{GS}	I _{GSS}	---	---	+100 -100	nA
Total Gate Charge Gate to Source Charge Gate to Drain Charge	V _{GS} =5 Volts 80% rated V _{DS} I _D =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	V _{DD} =50% rated V _{DS} I _D =10 A R _G = 18Ω	t _{d(on)} t _r t _{d(off)} t _f	---	---	17 165 35 62	nsec
Diode Forward Voltage (I _S =rated I _D , V _{GS} =0 V, T _J =25° C)		V _{SD}	---	---	2.5	V
Diode Reverse Recovery Time Reverse Recovery Charge	T _J =25° C I _F =16 Amps di/dt=100 A/μsec	t _{rr} Q _{RR}	70 0.19	---	140 0.78	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	V _{GS} =0 Volts V _{DS} =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.