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

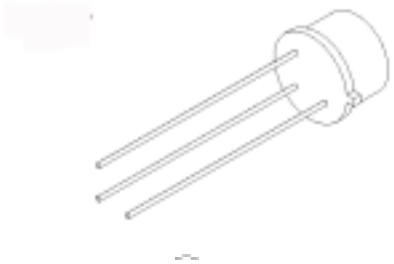
SFL3200/39

Logic Level
12A 150V .17Ω
N-Channel Power MOSFET

DESIGNER'S DATA SHEET

Features:

- Rugged Construction
- 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



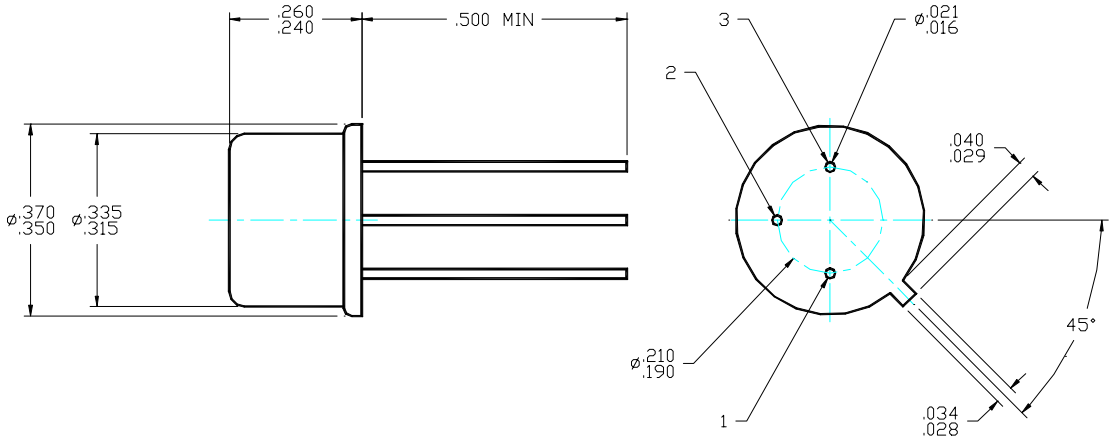
TO-39

Maximum Ratings	Symbol	Value	Unit
Drain to Source Voltage	V_{DS} 150		Volts
Gate to Source Voltage	V_{GS}	±16	Volts
Continuous Drain Current	I_D	9.3	Amps
Peak Drain Current TC = 25 °C 1/	I_P 35		Amps
Operating and Storage Temperature	Top & Tstg	-55 to 175	ºC
Thermal Resistance Junction to Case	$R_{\theta JC}$ 11.5		ºC/W
Total Device Dissipation @ TC = 25 °C Total Device Dissipation @ TA = 25 °C	P_D	13 1.2	Watts

Package Outline: TO-39 (JEDEC)

PIN OUT:

PIN 1: Source
PIN 2: Gate
Pin 3: Drain



Note:

1/ **Peak Drain Current Limited by Package Lead Wire**

NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.	**DATA SHEET #: FT0007A**

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Electrical Characteristics @ TJ = 25°C (Unless Otherwise Specified)		Symbol	Min	Typ	Max	Units
Drain to Source Breakdown Voltage (VGS=0 V, ID=250 μA)		BV_{DSS}	150 —		—	Volts
Drain to Source On State Resistance (VGS=10 V, ID=5 A)		$R_{DS(on)}$	— .	16	.17	Ω
On State Drain Current (VDS>ID(on) X RDS(on) Max, VGS=5V)		$I_{D(on)}$	12 —		—	A
Gate Threshold Voltage (VDS=VGS, ID=250μA)		$V_{GS(th)}$	1 —		2	V
Forward Transconductance (VDS>ID(on) x Max, IDS=5A)		g_{fs}	8.35 6		—	mho
Zero Gate Voltage Drain Current (VDS=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 80% rated VDS ID=9A	Q_g Q_{gs} Q_{gd}	— — —	— — —	35 4.1 21	nC
Turn on Delay Time **Rise Time** **Turn on Delay Time** **Fall Time**	VDD=50% Rated VDS RG=15Ω ID=7.2A	$t_{d(on)}$ tr $t_{d(off)}$ t_f	— — — —	2.4 45 38 36	— — — —	nsec
Diode Forward Voltage (VGS=0 V, TJ=25ºC) IS=7.2A		V_{SD}	— —		1.33	V
Diode Reverse Recovery Time **Reverse Recovery Charge**	TJ=150ºC IF=7.2A Di/dt=100A/μsec	T_{rr} Q_{RR}	— —	160 8.1	240 —	nsec nC
Input Capacitance **Input Capacitance** **Reverse Transfer Capacitance**	VGS=0 Volts VDS=25 Volts F=1 MHz	C_{iss} C_{oss} C_{rss}	— — —	775 140 70	— — —	pF