



Solid State Devices, Inc.

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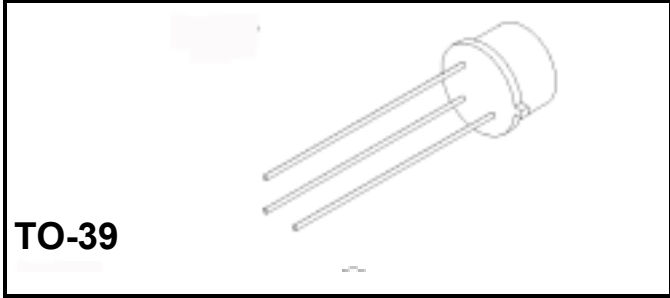
SFL3200/39

**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



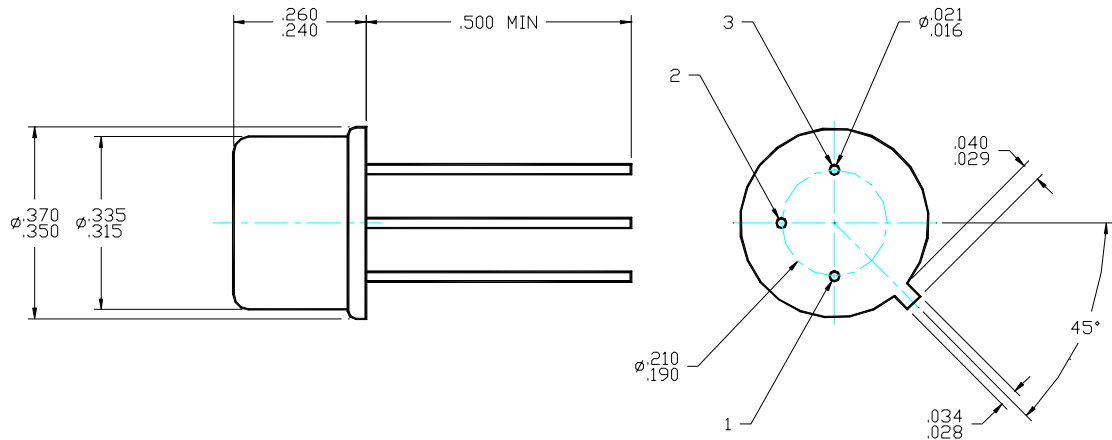
TO-39

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	°C
Thermal Resistance Junction to Case	R _{θJC}	11.5	°C/W
Total Device Dissipation @ TC = 25 °C	P _D	13	Watts
Total Device Dissipation @ TA = 25 °C		1.2	

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)	B_VDSS	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=125°C)	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)} t_r t_{d(off)} t_f	— — — —	2.4 45 38 36	— — — —	nsec
Diode Forward Voltage (VGS=0 V, TJ=25°C) IS=7.2A	V_{SD}	—	—	1.33	V
Diode Reverse Recovery Time Reverse Recovery Charge TJ=150°C 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