



Solid State Devices, Inc.

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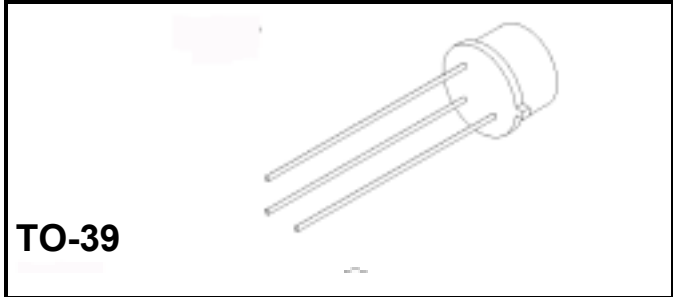
SFL3200/39

**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

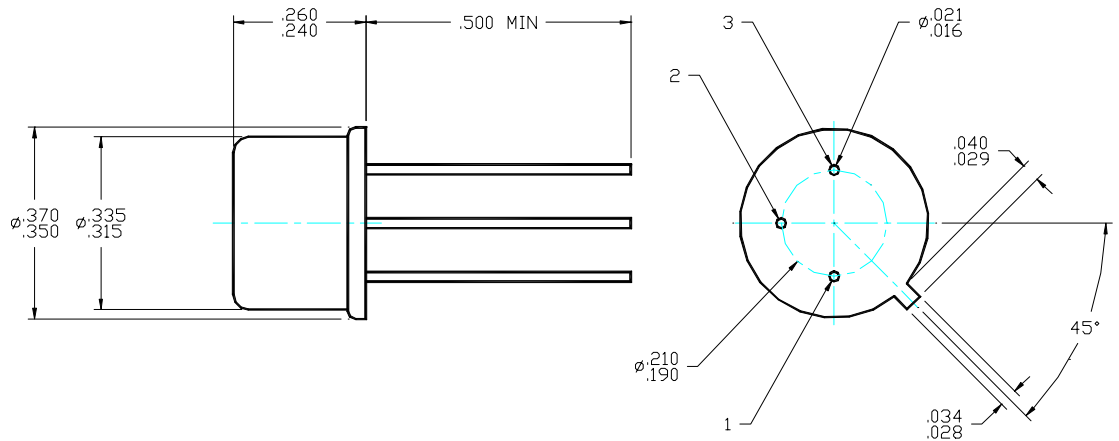


Maximum Ratings	Symbol	Value	Unit
Drain to Source Voltage	V _{DS}	150	Volts
Gate to Source Voltage	V _{GS}	±16	Volts
Continuous Drain Current	I _D	9.3	Amps
Peak Drain Current TC = 25 °C ^{1/}	I _P	35	Amps
Operating and Storage Temperature	Top & Tstg	-55 to 175	°C
Thermal Resistance Junction to Case	R _{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)		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=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	VGS=10 Volts	Q_g	—	—	35	nC
Gate to Source Charge	80% rated VDS	Q_{gs}	—	—	4.1	
Gate to Drain Charge	ID=9A	Q_{gd}	—	—	21	
Turn on Delay Time	VDD=50%	t_{d(on)}	—	2.4	—	nsec
Rise Time	Rated VDS	t_r	—	45	—	
Turn on Delay Time	RG=15Ω	t_{d(off)}	—	38	—	
Fall Time	ID=7.2A	t_f	—	36	—	
Diode Forward Voltage (VGS=0 V, TJ=25°C) IS=7.2A		V_{SD}	—	—	1.33	V
Diode Reverse Recovery Time	TJ=150°C	T_{rr}	—	160	240	nsec
Reverse Recovery Charge	IF=7.2A Di/dt=100A/μsec	Q_{RR}	—	8.1	—	nC
Input Capacitance	VGS=0 Volts	C_{iss}	—	775	—	pF
Input Capacitance	VDS=25 Volts	C_{oss}	—	140	—	
Reverse Transfer Capacitance	F=1 MHz	C_{rss}	—	70	—	