

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL		UNITS
Drain-Source Volt.(1)	V _{DSS}	1000	V _{dc}
Drain-Gate Voltage (R _{GS} =1.0M Ω) (1)	V _{DGR}	1000	V _{dc}
Gate-Source Voltage Continuous	V _{GS}	± 30	V _{dc}
Drain Current Continuous (T _c = 25°C)	I _D	5.5	A _{dc}
Drain Current Pulsed(3)	I _{DM}	22	A
Total Power Dissipation	P _D	200	W
Power Dissipation Derating > 25°C		1.2	W/°C
Operating & Storage Temp.	T _J /T _{sig}	-55 TO +150	°C
Thermal Resistance	R _{thJc}	0.8	°C/W
Max. Lead temperature	TL	300	°C

1000V, 5.5A, 4.0 Ω

SDF6NA100 SXH

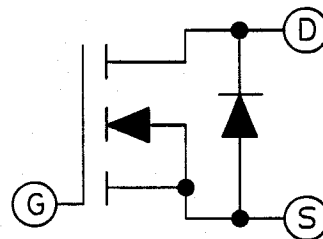
FEATURES

- RUGGED PACKAGE
- HI-REL CONSTRUCTION
- COPPER CORED 52 ALLOY PINS
- LOW IR LOSSES
- LOW THERMAL RESISTANCE
- OPTIONAL MIL-S-19500 SCREENING

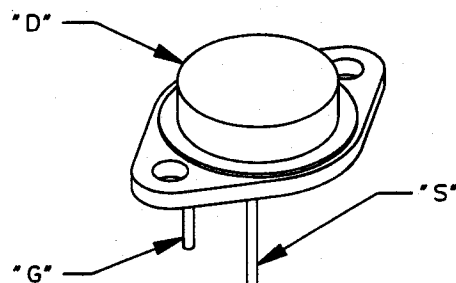
ELECTRICAL CHARACTERISTICS T_c = 25°C (UNLESS OTHERWISE SPECIFIED)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Drain-source Breakdown Volt.	V(BR) _{DSS}	V _{GS} =0V I _D =250 μ A	1000	-	-	V
Gate Threshold Voltage	V _{GS} (TH)	V _{DS} =V _{GS} I _D =1 MA	2.0	-	4.0	V
Gate Source Leakage	I _{GSS}	V _{GS} = ± 30 V	-	-	100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =MAX. RATING V _{GS} =0	-	-	250	μ A
		V _{DS} =0.8 MAX. RATING V _{GS} =0 T _J =125°C	-	-	1000	μ A
Static Drain-Source On-State Resistance(1)	R _{DS} (ON)	V _{GS} =10 V I _D =2.75A	-	-	2.4	Ω
Input Capacitance	C _{ISS}	V _{GS} =0V V _{DS} =25 V f=1.0 MHz	-	-	1800	pF
Output Capacitance	C _{OSS}		-	-	325	pF
Reverse Transfer Capacitance	C _{RSS}		-	-	120	pF
Turn-On Delay	t _d (on)	V _{DD} =500V R _G =1.8 Ω I _D =5.5A V _{GS} =15V	-	-	28	ns
Rise Time	t _r	(MOSFET switching times are essentially independent of operating temp.)	-	-	26	ns
Turn-Off Delay	t _d (off)		-	-	82	ns
Fall Time	t _f		-	-	37	ns
Total Gate Charge (Gate-Source Plus Gate-Drain)	Q _g	V _{GS} =10V, I _D =5.5A V _{DS} =0.5 MAX. RATING	-	-	105	nC
Gate-Source Charge	Q _{gs}	(Gate charge is essentially independent of the operating temperature)	-	-	10	nC
Gate-Drain ("Miller") Charge	Q _{gd}		-	-	54	nC

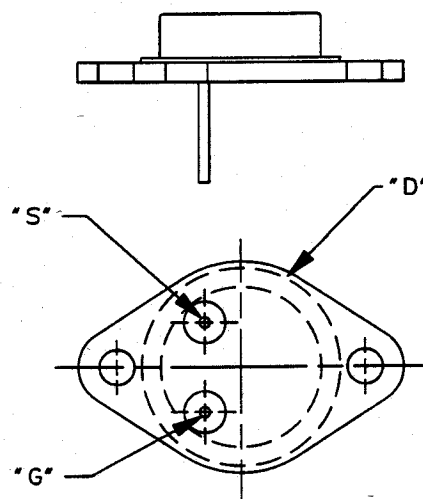
SCHEMATIC



"ISOMETRIC VIEW"



PIN CONFIGURATION "0" SXH



REL.3/93

SOURCE-DRAIN DIODE RATINGS & CHARACT. T_c = 25°C (UNLESS OTHERWISE SPECIFIED)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Continuous Source Current (Body Diode)	I _S	Modified MOSFET symbol showing the integral reverse P-N junction rectifier (See schematic)	-	-	5.5	A
Pulse Source Current (Body Diode) (1)	I _{SM}		-	-	22	A
Diode Forward Voltage (2)	V _{SD}	I _F =5.5A V _{GS} =0V T _c =+25°C	-	-	1.3	V
Reverse Recovery Time	t _{rr}	T _c =+25°C I _F =5.5A	-	-	910	ns
Reverse Recovery Charge	Q _{rr}	di/dt=100A/ μ S	-	-	5	μ C

- (1) T_J = 25°C to 150°C.
 (2) Pulse test: Pulse Width <300 μ S, Duty Cycle <2%.
 (3) Repetitive Rating: Pulse Width limited By Max. junction Temperature.