

ABSOLUTE MAXIMUM RATINGS			
PARAMETER	SYMBOL		UNITS
Drain-source Volt.(1)	VDSS	1000	Vdc
Drain-Gate Voltage (R _{GS} =1.0M Ω) (1)	VDGR	1000	Vdc
Gate-Source Voltage Continuous	VGS	± 20	Vdc
Drain Current Continuous (T _c = 25°C)	ID	9.0	Adc
Drain Current Pulsed(3)	IDM	36	A
Total Power Dissipation	PD	230	W
Power Dissipation Derating > 25°C		1.89	W/°C
Operating & Storage Temp.	TJ/Tsig	-55 TO +150	°C
Thermal Resistance	R _{thJc}	0.53	°C/W
Max. Lead temperature	TL	300	°C

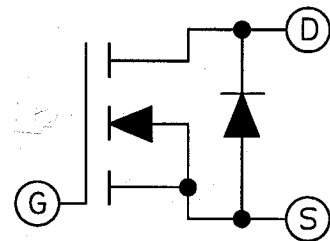
1000V, 9.0A, 1.4 Ω

SDF9N100 SXH

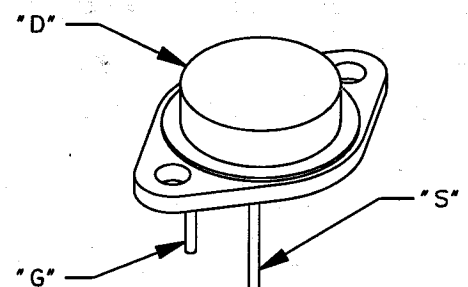
FEATURES

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

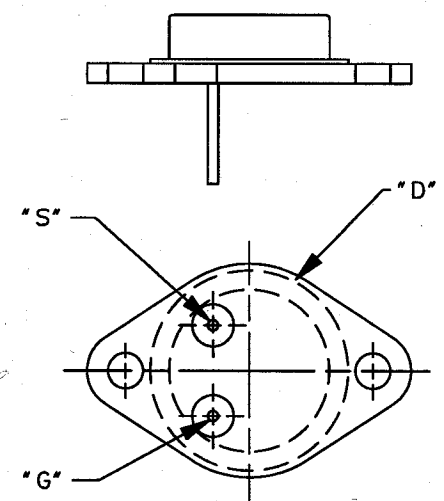
SCHEMATIC



"ISOMETRIC VIEW"



PIN CONFIGURATION "0" SXH



ELECTRICAL CHARACTERISTICS T _c = 25°C (UNLESS OTHERWISE SPECIFIED)						
PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Drain-source Breakdown Volt.	V(BR) _{DSS}	VGS=0V ID=250 μ A	1000	-	-	V
Gate Threshold Voltage	VGS(TH)	VDS=VGS ID=250 μ A	2.0	-	4.5	V
Gate Source Leakage	IGSS	VGS= ± 20 V	-	-	100	nA
Zero Gate Voltage Drain Current	IDSS	VDS=MAX.RATING VGS=0 VDS=0.8 MAX.RATING VGS=0 TJ=125°C	-	-	250	μ A
Static Drain-Source On-State Resistance(1)	RDS(ON)	VGS=10 V ID=4.5A	-	-	1.4	Ω
Input Capacitance	CISS	VGS=0V VDS=25 V f=1.0 MHz	-	-	2950	pF
Output Capacitance	COSS		-	-	500	pF
Reverse Transfer Capacitance	CRSS		-	-	160	pF
Turn-On Delay	td(on)	VDD=500V VGS=15V ID=9.0A RG=1.8 Ω	-	-	30	ns
Rise Time	tr	(MOSFET switching times are essentially independent of operating temp.)	-	-	32	ns
Turn-Off Delay	td(off)		-	-	95	ns
Fall Time	tf		-	-	48	ns
Total Gate Charge (Gate-Source Plus Gate-Drain)	Qg	VGS=10V, ID=9.0A	-	-	130	nC
Gate-Source Charge	Qgs	VDS=0.5 MAX.RATING (Gate charge is essentially independent of the operating temperature)	-	-	14	nC
Gate-Drain ("Miller") Charge	Qgd		-	-	70	nC

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)	IS	Modified MOSFET symbol showing the integral reverse P-N junction rectifier (See schematic)	-	-	9.0	A
Pulse Source Current (Body Diode) (1)	ISM		-	-	36	A
Diode Forward Voltage (2)	VSD	IF=9.0A VGS=0V T _c =+25°C	-	-	1.3	V
Reverse Recovery Time	trr	T _c =+25° C IF=9.0A di/dt=100A/ μ S	-	-	1200	ns

(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.