

N-CHANNEL ENHANCEMENT MOS FET

ABSOLUTE MAXIMUM RATINGS			
PARAMETER	SYMBOL		UNITS
Drain-source Volt.(1)	VDSS	800	Vdc
Drain-Gate Voltage (R _{GS} =1.0M Ω) (1)	VDGR	800	Vdc
Gate-Source Voltage Continuous	VGS	± 20	Vdc
Drain Current Continuous (T _c = 25°C)	ID	1.6	Adc
Drain Current Pulsed(3)	IDM	6.4	A
Total Power Dissipation	PD	50	W
Power Dissipation Derating > 25°C		0.4	W/°C
Operating & Storage Temp.	TJ/Tsig	-55 TO +150	°C
Thermal Resistance	RthJc	2.5	°C/W
Max.Lead temperature	TL	300	°C

800V, 1.6A, 7.8 Ω

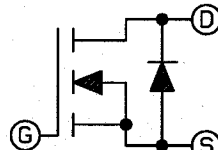
SDFE22 JAA
SDFE22 JAB

FEATURES

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

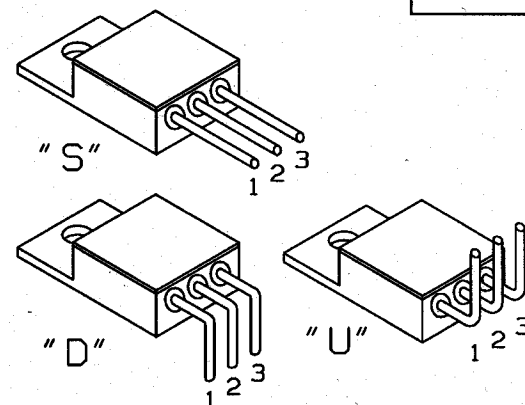
ELECTRICAL CHARACTERISTICS T _c = 25°C (UNLESS OTHERWISE SPECIFIED)						
PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Drain-source Breakdown Volt.	V(BR)DSS	VGS=0V ID=250 μ A	800	-	-	V
Gate Threshold Voltage	VGS(TH)	VDS=VGS ID=250 μ A	2.0	-	4.0	V
Gate Source Leakage	IGSS	VGS= ± 20 V	-	-	500	nA
Zero Gate Voltage Drain Current	IDSS	VDS=MAX.RATING VGS=0	-	-	250	μ A
		VDS=0.8 MAX.RATING VGS=0 T _J =125°C	-	-	1000	μ A
Static Drain-Source On-State Resistance(1)	RDS(ON)	VGS=10 V ID=1.0A	-	-	7.8	Ω
Forward Trans-Conductance (2)	g _{fs}	VDS ≥ 100 V IDS=1.0A	1.5	-	-	S(U)
Input Capacitance	CISS		-	520	-	pF
Output Capacitance	COSS	VGS=0V VDS=25 V f=1.0 MHz	-	90	-	pF
Reverse Transfer Capacitance	CRSS		-	30	-	pF
Turn-On Delay	t _{d(on)}	VDD=400V RG=18 Ω ID=1.6A RD=225 Ω	-	-	20	ns
Rise Time	t _r	(MOSFET switching times are essentially independent of operating temp.)	-	-	31	ns
Turn-Off Delay	t _{d(off)}		-	-	110	ns
Fall Time	t _f		-	-	42	ns
Total Gate Charge (Gate-Source Plus Gate-Drain)	Q _g	VGS=10V, ID=1.6A VDS=0.5 MAX.RATING (Gate charge is essentially independent of the operating temperature)	26	-	39	nC
Gate-Source Charge	Q _{gs}		2.7	-	4.1	nC
Gate-Drain ("Miller") Charge	Q _{gd}		14	-	21	nC

SCHEMATIC



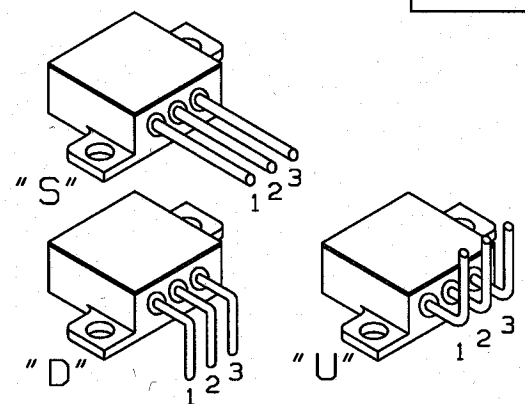
TERMINAL CONNECTIONS	
G	H
1 GATE	1 DRAIN
2 DRAIN	2 SOURCE
3 SOURCE	3 GATE

STANDARD BEND CONFIGURATIONS



(CUSTOM BEND OPTIONS AVAILABLE)

STANDARD BEND CONFIGURATIONS



(CUSTOM BEND OPTIONS AVAILABLE)

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)	-	-	1.8	A
Pulse Source Current (Body Diode) (1)	ISM		-	-	7.2	A
Diode Forward Voltage (2)	VSD	IF=1.6A, VGS=0V T _c =+25°C	-	-	1.4	V
Reverse Recovery Time	t _{rr}	T _c =+25°C	-	-	650	ns
Reverse Recovery Charge	Q _{rr}	IF=1.6A di/dt=100A/ μ S	-	1.0	-	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.