

## P-CHANNEL ENHANCEMENT MOS FET

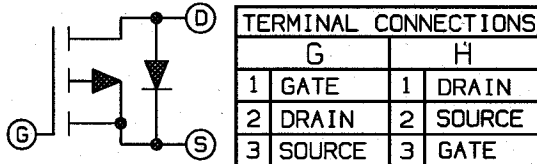
-200V, -6.5A, 0.8Ω

SDF9230 JAA  
 SDF9230 JAB  
 SDF9230 JDA

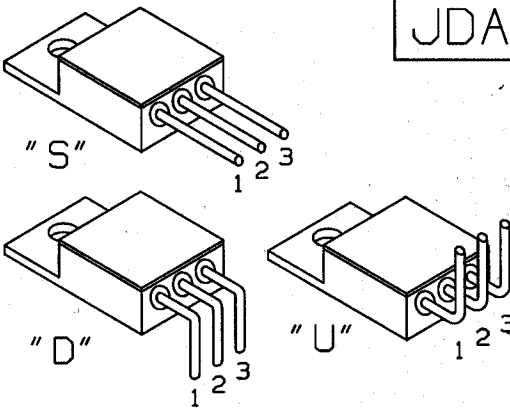
### FEATURES

- RUGGED PACKAGE
- HI-REL CONSTRUCTION
- CERAMIC EYELETS: JAA, JAB
- LEAD BENDING OPTIONS
- COPPER CORED 52 ALLOY PINS
- LOW IR LOSSES
- LOW THERMAL RESISTANCE
- OPTIONAL MIL-S-19500 SCREENING (TX-S)

### SCHEMATIC

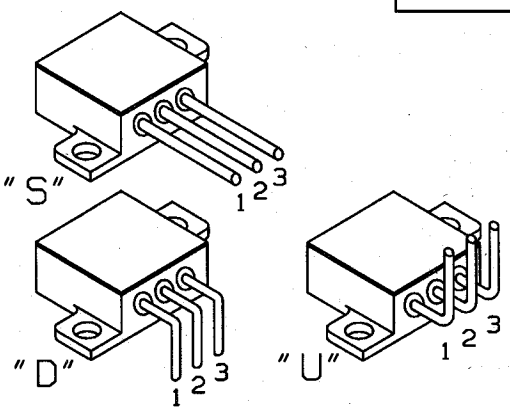


### STANDARD BEND CONFIGURATIONS



(CUSTOM BEND OPTIONS AVAILABLE)

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### ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL		UNITS
Drain-source Volt.(1)	VDSS	-200	Vdc
Drain-Gate Voltage (RGS=1.0Ma) (1)	VDGR	-200	Vdc
Gate-Source Voltage Continuous	VGS	±20	Vdc
Drain Current Continuous (Tc = 25°C)	ID	-6.5	Adc
Drain Current Pulsed(3)	IDM	-26	A
Total Power Dissipation	PD	75	W
Power Dissipation Derating > 25°C		0.6	W/°C
Operating & Storage Temp.	TJ/Tsig	-55 TO +150	°C
Thermal Resistance	RthJc	1.7	°C/W
Max. Lead temperature	TL	300	°C

### ELECTRICAL CHARACTERISTICS Tc = 25°C (UNLESS OTHERWISE SPECIFIED)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Drain-source Breakdown Volt.	V(BR)DSS	VGS=0V ID=-250 μA	-200	-	-	V
Gate Threshold Voltage	VGS(TH)	VDS=VGS ID=-250 μA	-2.0	-	-4.0	V
Gate Source Leakage	IGSS	VGS=±20 V	-	-	-100	nA
Zero Gate Voltage Drain Current	IDSS	VDS=MAX.RATING VGS=0	-	-	-250	μA
		VDS=0.8 MAX.RATING VGS=0 TJ=125°C	-	-	-1000	μA
Static Drain-Source On-State Resistance(1)	RDS(ON)	VGS=-10 V ID=-3.5A	-	-	0.8	Ω
Forward Trans-Conductance (2)	gfs	VDS ≥ -50 V IDS=-3.5A	2.2	-	-	S(O)
Input Capacitance	CISS		-	550	-	pF
Output Capacitance	COSS	VGS=0V VDS=-25 V f=1.0 MHz	-	170	-	pF
Reverse Transfer Capacitance	CRSS		-	50	-	pF
Turn-On Delay	td(on)	VDD=-100V Z0=50Ω ID=-3.5A	-	-	50	ns
Rise Time	tr	(MOSFET switching times are essentially independent of operating temp.)	-	-	100	ns
Turn-Off Delay	td(off)		-	-	100	ns
Fall Time	tf		-	-	80	ns
Total Gate Charge (Gate-Source Plus Gate-Drain)	Qg	VGS=-15V, ID=-6.5A VDS=0.8 MAX.RATING	-	-	45	nC
Gate-Source Charge	Qgs	(Gate charge is essentially independent of the operating temperature)	-	18	-	nC
Gate-Drain ("Miller") Charge	Qgd		-	13	-	nC

### SOURCE-DRAIN DIODE RATINGS & CHARACT. Tc = 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)	-	-	-6.5	A
Pulse Source Current (Body Diode) (1)	ISM		-	-	-26	A
Diode Forward Voltage (2)	VSD	IF=-6.5A, VGS=0V Tc=+25°C	-	-	-6.5	V
Reverse Recovery Time	trr	Tc=+25° C	-	400	-	ns
Reverse Recovery Charge	Qrr	IF=-6.5A di/dt=100A/μS	-	2.6	-	μC

REV. 10/93

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