

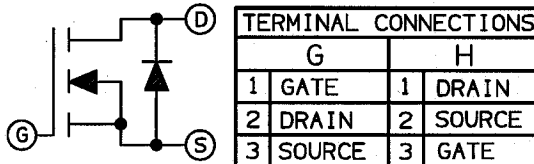
## N-CHANNEL ENHANCEMENT MOS FET

400V, 25A, 0.21Ω	
SDF360	JEA
SDF360	JEB
SDF360	JEC
SDF360	JED

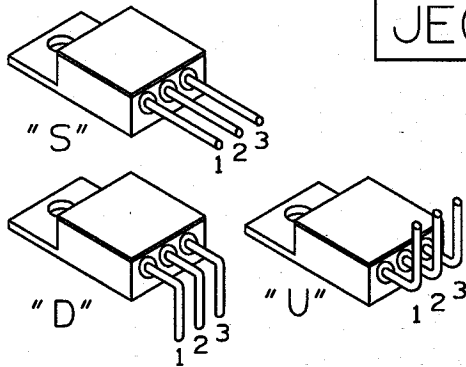
### FEATURES

- 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

### SCHEMATIC



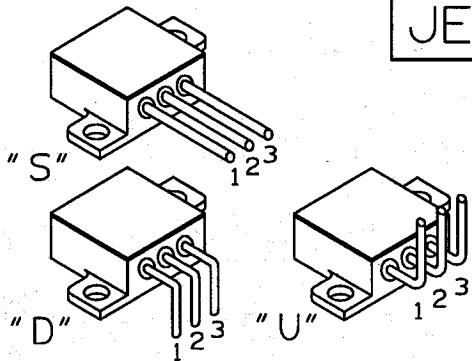
### STANDARD BEND CONFIGURATIONS



JEA  
JEC

(CUSTOM BEND OPTIONS AVAILABLE)

### STANDARD BEND CONFIGURATIONS



JEB  
JED

(CUSTOM BEND OPTIONS AVAILABLE)

### ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL		UNITS
Drain-source Volt.(1)	VDSS	400	Vdc
Drain-Gate Voltage (R <sub>GS</sub> =1.0MΩ) (1)	VDGR	400	Vdc
Gate-Source Voltage Continuous	VGS	±20	Vdc
Drain Current Continuous (T <sub>c</sub> = 25°C)	ID	25	Adc
Drain Current Pulsed(3)	IDM	100	A
Total Power Dissipation	PD	250	W
Power Dissipation Derating > 25°C		2.0	W/°C
Operating & Storage Temp.	TJ/Tsig	-55 TO +150	°C
Thermal Resistance	RthJc	0.5	°C/W
Max.Lead temperature	TL	300	°C

### ELECTRICAL CHARACTERISTICS T<sub>c</sub> = 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	400	-	-	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=14A	-	-	.21	Ω
Forward Trans-Conductance (2)	gfs	VDS ≥ 50 V IDS=14A	14	-	-	S(U)
Input Capacitance	CISS		-	4000	-	pF
Output Capacitance	COSS	VGS=0V VDS=25 V f=1.0 MHz	-	550	-	pF
Reverse Transfer Capacitance	CRSS		-	97	-	pF
Turn-On Delay	td(on)	VDD=200V RG=4.3n ID=25A RD=7.5n	-	-	33	ns
Rise Time	tr	(MOSFET switching times are essentially independent of operating temp.)	-	-	140	ns
Turn-Off Delay	td(off)		-	-	120	ns
Fall Time	tf		-	-	99	ns
Total Gate Charge (Gate-Source Plus Gate-Drain)	Qg	VGS=10V, ID=25A VDS=0.8 MAX.RATING (Gate charge is essentially independent of the operating temperature)	-	-	170	nC
Gate-Source Charge	Qgs		-	-	28	nC
Gate-Drain ("Miller") Charge	Qgd		-	-	90	nC

### SOURCE-DRAIN DIODE RATINGS & CHARACT. T<sub>c</sub> = 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)	-	-	25	A
Pulse Source Current (Body Diode) (1)	ISM		-	-	100	A
Diode Forward Voltage (2)	VSD	IF=25A VGS=0V Tc=+25°C	-	-	1.8	V
Reverse Recovery Time	trr	Tc=+25° C	-	-	1000	ns
Reverse Recovery Charge	Qrr	IF=25A di/dt=100A/μS	-	7.1	-	μC

(1) T<sub>J</sub> = 25°C to 150°C.  
 (2) Pulse test: Pulse Width < 300μS, Duty Cycle < 2%.  
 (3) Repetitive Rating: Pulse Width Limited By Max. Junction Temperature.