

ABSOLUTE MAXIMUM RATINGS			
PARAMETER	SYMBOL		UNITS
Drain-source Volt.(1)	VDSS	1000	Vdc
Drain-Gate Voltage (R <sub>GS</sub> =1.0M $\Omega$ ) (1)	VDGR	1000	Vdc
Gate-Source Voltage Continuous	VGS	$\pm 20$	Vdc
Drain Current Continuous (T <sub>c</sub> = 25°C)	ID	2	Adc
Drain Current Pulsed(3)	IDM	8	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

1000V, 2.0A, 6.0  $\Omega$

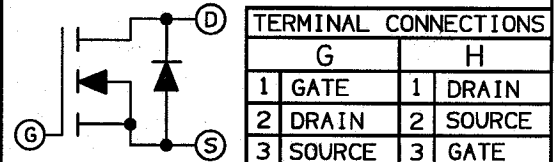
SDF2N100 JAA  
SDF2N100 JAB

### FEATURES

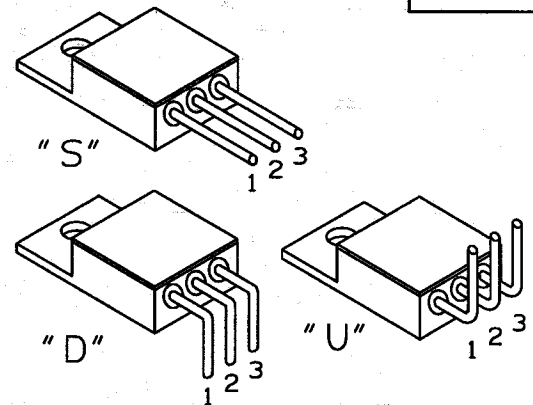
- RUGGED PACKAGE
- HI-REL CONSTRUCTION
- CERAMIC EYELETS
- LEAD BENDING OPTIONS
- COPPER CORED 52 ALLOY PINS
- LOW IR LOSSES
- LOW THERMAL RESISTANCE
- OPTIONAL MIL-S-19500 SCREENING

ELECTRICAL CHARACTERISTICS T <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 $\mu$ A	1000	-	-	V
Gate Threshold Voltage	VGS(TH)	VDS=VGS ID=250 $\mu$ A	2.0	-	4.5	V
Gate Source Leakage	IGSS	VGS= $\pm 20$ V	-	-	100	nA
Zero Gate Voltage Drain Current	IDSS	VDS=MAX.RATING VGS=0	-	-	250	$\mu$ A
		VDS=0.8 MAX.RATING VGS=0 TJ=125°C	-	-	1000	$\mu$ A
Static Drain-Source On-State Resistance(1)	RDS(ON)	VGS=10 V ID=1.0A	-	-	6.0	$\Omega$
Forward Trans-Conductance (2)	gfs	VDS $\geq 15$ V IDS=1.0A	1.5	-	-	S(U)
Input Capacitance	CISS		-	720	-	pF
Output Capacitance	COSS	VGS=0V VDS=25 V f=1.0 MHz	-	60	-	pF
Reverse Transfer Capacitance	CRSS		-	15	-	pF
Turn-On Delay	td(on)	VDD=500V Zo=20 $\Omega$ ID=1.0A	-	-	30	ns
Rise Time	tr	(MOSFET switching times are essentially independent of operating temp.)	-	-	35	ns
Turn-Off Delay	td(off)		-	-	80	ns
Fall Time	tf		-	-	55	ns
Total Gate Charge (Gate-Source Plus Gate-Drain)	Qg	VGS=10V, ID=2.0A VDS=0.8 MAX.RATING (Gate charge is essentially independent of the operating temperature)	-	-	40	nC
Gate-Source Charge	Qgs		-	-	10	nC
Gate-Drain ("Miller") Charge	Qgd		-	-	15	nC

### SCHEMATIC

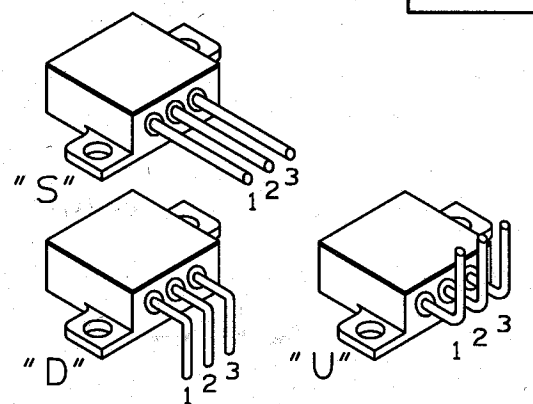


### STANDARD BEND CONFIGURATIONS



(CUSTOM BEND OPTIONS AVAILABLE)

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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)	-	-	2.0	A
	ISM		-	-	8.0	A
Diode Forward Voltage (2)	VSD	IF=2.0A VGS=0V Tc=+25°C	-	-	1.5	V
Reverse Recovery Time	trr	Tc=+25° C IF=2.0A di/dt=100A/ $\mu$ S	-	800	-	ns

(1) T<sub>J</sub> = 25°C to 150°C.  
(2) Pulse test: Pulse Width < 300 $\mu$ S, Duty Cycle < 2%.  
(3) Repetitive Rating: Pulse Width limited By Max. junction Temperature.