

ABSOLUTE MAXIMUM RATINGS			
PARAMETER	SYMBOL		UNITS
Drain-source Volt. (1)	V <sub>DSS</sub>	-100	V <sub>dc</sub>
Drain-Gate Voltage (R <sub>GS</sub> =1.0M $\Omega$ ) (1)	V <sub>DGR</sub>	-100	V <sub>dc</sub>
Gate-Source Voltage Continuous	V <sub>GS</sub>	$\pm 20$	V <sub>dc</sub>
Drain Current Continuous (T <sub>c</sub> = 25°C)	I <sub>D</sub>	-19	A <sub>dc</sub>
Drain Current Pulsed (3)	I <sub>DM</sub>	-76	A
Total Power Dissipation	PD	100	W
Power Dissipation Derating > 25°C		0.83	W/°C
Operating & Storage Temp.	T <sub>J</sub> /T <sub>stg</sub>	-55 TO +150	°C
Thermal Resistance	R <sub>thJc</sub>	1.2	°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) <sub>DSS</sub>	V <sub>GS</sub> =0V I <sub>D</sub> =-250 $\mu$ A	-100	-	-	V
Gate Threshold Voltage	V <sub>GS(TH)</sub>	V <sub>D</sub> =V <sub>GS</sub> I <sub>D</sub> =-250 $\mu$ A	-2.0	-	-4.0	V
Gate Source Leakage	I <sub>GSS</sub>	V <sub>GS</sub> = $\pm 20$ V	-	-	-100	nA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>D</sub> =MAX. RATING V <sub>GS</sub> =0	-	-	-250	$\mu$ A
		V <sub>D</sub> =0.8 MAX. RATING V <sub>GS</sub> =0 T <sub>J</sub> =125°C	-	-	-1000	$\mu$ A
Static Drain-Source On-State Resistance (1)	R <sub>DS(ON)</sub>	V <sub>GS</sub> =10 V I <sub>D</sub> =-10A	-	-	0.21	$\Omega$
Forward Trans-Conductance (2)	g <sub>fs</sub>	V <sub>D</sub> $\geq$ 50 V I <sub>D</sub> =-10A	5.0	-	-	S(U)
Input Capacitance	C <sub>ISS</sub>	V <sub>GS</sub> =0V V <sub>D</sub> =-25 V	-	1200	-	pF
Output Capacitance	C <sub>OSS</sub>	f=1.0 MHz	-	570	-	pF
Reverse Transfer Capacitance	C <sub>RSS</sub>		-	160	-	pF
Turn-On Delay	t <sub>d(on)</sub>	V <sub>D</sub> =-50V Z <sub>o</sub> =4.7 $\Omega$	-	-	30	ns
Rise Time	t <sub>r</sub>	I <sub>D</sub> =-10A	-	-	100	ns
Turn-Off Delay	t <sub>d(off)</sub>	(MOSFET switching times are essentially independent of operating temp.)	-	-	100	ns
Fall Time	t <sub>f</sub>		-	-	100	ns
Total Gate Charge (Gate-Source Plus Gate-Drain)	Q <sub>g</sub>	V <sub>GS</sub> =-15V, I <sub>D</sub> =-19A	-	-	90	nC
Gate-Source Charge	Q <sub>gs</sub>	V <sub>D</sub> =0.8 MAX. RATING (Gate charge is essentially independent of the operating temperature)	-	14	-	nC
Gate-Drain ("Miller") Charge	Q <sub>gd</sub>		-	56	-	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)	I <sub>S</sub>	Modified MOSFET symbol showing the integral reverse P-N junction rectifier (See schematic)	-	-	-19	A
Pulse Source Current (Body Diode) (1)	I <sub>SM</sub>		-	-	-76	A
Diode Forward Voltage (2)	V <sub>SD</sub>	I <sub>F</sub> =-15A, V <sub>GS</sub> =0V T <sub>c</sub> =+25°C	-	-	-4.2	V
Reverse Recovery Time	t <sub>rr</sub>	T <sub>c</sub> =+25°C	-	170	-	ns
Reverse Recovery Charge	Q <sub>rr</sub>	I <sub>F</sub> =-16A di/dt=100A/ $\mu$ S	-	0.8	-	$\mu$ C

 (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.

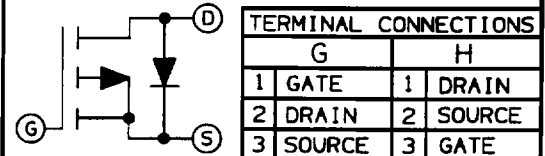
 -100V, -19A, 0.21 $\Omega$ 

SDF9140	JAA
SDF9140	JAB
SDF9140	JDA

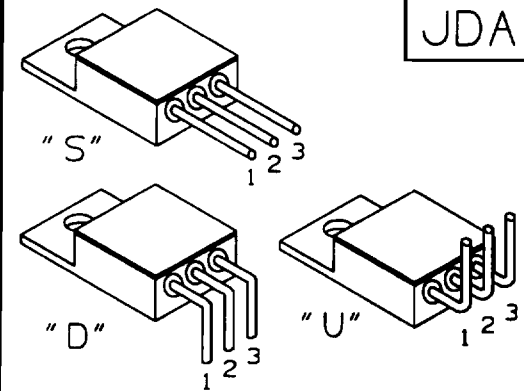
### FEATURES

- 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

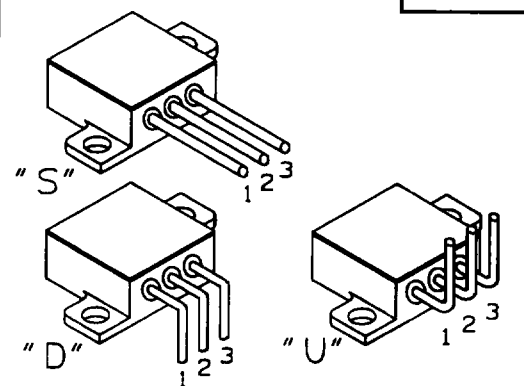


### STANDARD BEND CONFIGURATIONS



(CUSTOM BEND OPTIONS AVAILABLE)

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