

P-CHANNEL ENHANCEMENT MOS FET

ABSOLUTE MAXIMUM RATINGS			
PARAMETER	SYMBOL		UNITS
Drain-source Volt.(1)	VDSS	-100	Vdc
Drain-Gate Voltage (R _{GS} =1.0M Ω) (1)	VDGR	-100	Vdc
Gate-Source Voltage Continuous	VGS	\pm 20	Vdc
Drain Current Continuous (T _c = 25°C)	ID	-19	Adc
Drain Current Pulsed(3)	IDM	-76	A
Total Power Dissipation	PD	100	W
Power Dissipation Derating > 25°C		0.83	W/°C
Operating & Storage Temp.	TJ/Tsig	-55 TO +150	°C
Thermal Resistance	R _{thJc}	1.2	°C/W
Max. Lead temperature	TL	300	°C

-100V, -19A, 0.21 Ω

SDF9140 JAA
SDF9140 JAB
SDF9140 JDA

FEATURES

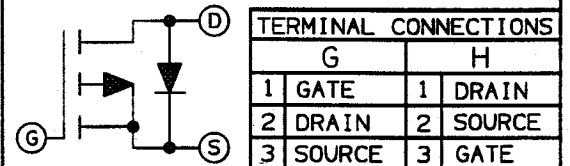
- RUGGED PACKAGE
- HI-REL CONSTRUCTION
- CERAMIC EYELETS; JAA, JAB
- LEAD BENDING OPTIONS
- COPPER CORED 52 ALLOY PINS
- LOW IR LOSSES
- LOW THERMAL RESISTANCE
- OPTIONAL MIL-S-19500 SCREENING (TX-S)

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	-100	-	-	V
Gate Threshold Voltage	VGS(TH)	VDS=VGS ID=-250 μ A	-2.0	-	-4.0	V
Gate Source Leakage	IGSS	VGS= \pm 20 V	-	-	-100	nA
Zero Gate Voltage Drain Current	IDSS	VDS=MAX. RATING VGS=0	-	-	-250	μ A
		VDS=0.8 MAX. RATING VGS=0 TJ=125°C	-	-	-1000	μ A
Static Drain-Source On-State Resistance(1)	RDS(ON)	VGS=10 V ID=-10A	-	-	0.21	Ω
Forward Trans-Conductance (2)	gfs	VDS \geq 50 V IDS=-10A	5.0	-	-	S(U)
Input Capacitance	CISS	VGS=0V VDS=-25 V f=1.0 MHz	-	1200	-	pF
Output Capacitance	COSS		-	570	-	pF
Reverse Transfer Capacitance	CRSS		-	160	-	pF
Turn-On Delay	td(on)	VDD=-50V Zo=4.7 Ω ID=-10A	-	-	30	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		-	-	100	ns
Total Gate Charge (Gate-Source Plus Gate-Drain)	Qg	VGS=-15V, ID=-19A VDS=0.8 MAX. RATING (Gate charge is essentially independent of the operating temperature)	-	-	90	nC
Gate-Source Charge	Qgs		-	14	-	nC
Gate-Drain ("Miller") Charge	Qgd		-	56	-	nC

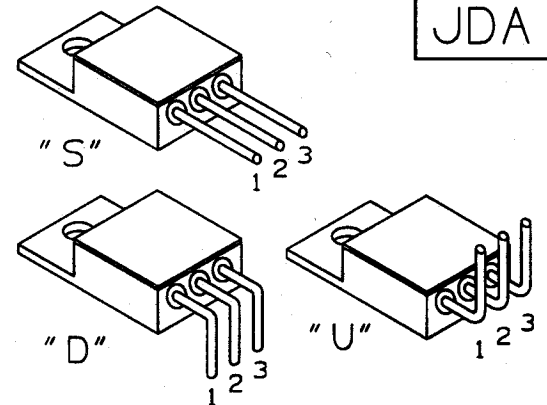
SOURCE-DRAIN DIODE RATINGS & CHARACT. T _c = 25°C (UNLESS OTHERWISE SPECIFIED)						
PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Continuous Source Current (Body Diode)	IS	Modified MOSFET symbol showing the integral reverse P-N junction rectifier (See schematic)	-	-	-19	A
Pulse Source Current (Body Diode) (1)	ISM		-	-	-76	A
Diode Forward Voltage (2)	VSD	IF=-15A, VGS=0V Tc=+25°C	-	-	-4.2	V
Reverse Recovery Time	trr	Tc=+25°C	-	170	-	ns
Reverse Recovery Charge	Qrr	IF=-16A di/dt=100A/ μ S	-	0.8	-	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.

SCHEMATIC



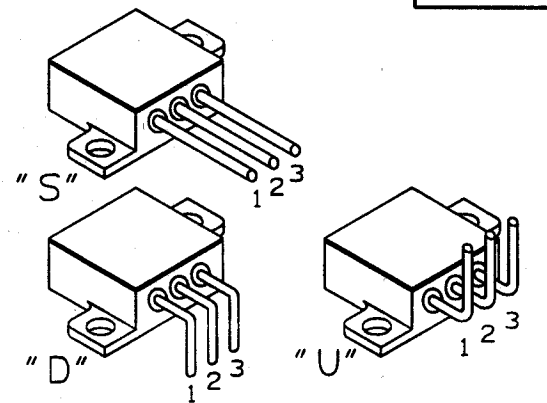
STANDARD BEND CONFIGURATIONS



JAA
JDA

(CUSTOM BEND OPTIONS AVAILABLE)

STANDARD BEND CONFIGURATIONS



JAB

(CUSTOM BEND OPTIONS AVAILABLE)