

N-CHANNEL ENHANCEMENT MOS FET

ABSOLUTE MAXIMUM RATINGS			
PARAMETER	SYMBOL		UNITS
Drain-source Volt.(1)	VDSS	100	Vdc
Drain-Gate Voltage (RGS=1.0Ma) (1)	VDGR	100	Vdc
Gate-Source Voltage Continuous	VGS	±20	Vdc
Drain Current Continuous (Tc = 25°C)	ID	25	Adc
Drain Current Pulsed(3)	IDM	160	A
Total Power Dissipation	PD	150	W
Power Dissipation Derating > 25°C		1.2	W/°C
Operating & Storage Temp.	TJ/Tsig	-55 TO +150	°C
Thermal Resistance	RthJc	0.8	°C/W
Max. Lead temperature	TL	300	°C

100V, 25A, 0.065 Ω

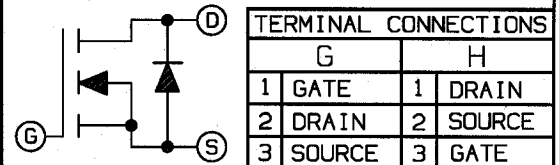
SDF150 JAA
SDF150 JAB

FEATURES

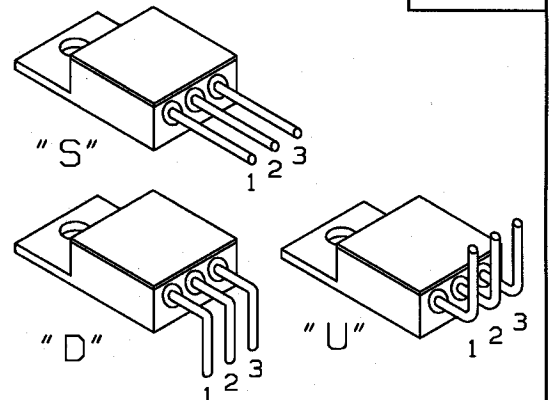
- RUGGED PACKAGE
- HI-REL CONSTRUCTION
- CERAMIC EYELETS
- LEAD BENDING OPTIONS
- COPPER CORED 52 ALLOY PINS
- LOW IR LOSSES
- LOW THERMAL RESISTANCE
- OPTIONAL MIL-S-19500 SCREENING

ELECTRICAL CHARACTERISTICS 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	100	-	-	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 VDS=0.8 MAX. RATING VGS=0 TJ=125°C	-	-	250	μA
Static Drain-Source On-State Resistance(1)	RDS(ON)	VGS=10 V ID=21A	-	-	.065	Ω
Forward Trans-Conductance (2)	gfs	VDS ≥ 50 V IDS=22A	9	-	-	S(V)
Input Capacitance	CISS		-	2000	-	pF
Output Capacitance	COSS	VGS=0V VDS=25 V f=1.0 MHz	-	1000	-	pF
Reverse Transfer Capacitance	CRSS		-	350	-	pF
Turn-On Delay	td(on)	VDD=50V -RG=6.2 n ID=25A RD=2.0 n	-	-	35	ns
Rise Time	tr	(MOSFET switching times are essentially independent of operating temp.)	-	-	100	ns
Turn-Off Delay	td(off)		-	-	125	ns
Fall Time	tf		-	-	100	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)	50	-	125	nC
Gate-Source Charge	Qgs		8	-	25	nC
Gate-Drain ("Miller") Charge	Qgd		15	-	65	nC

SCHEMATIC

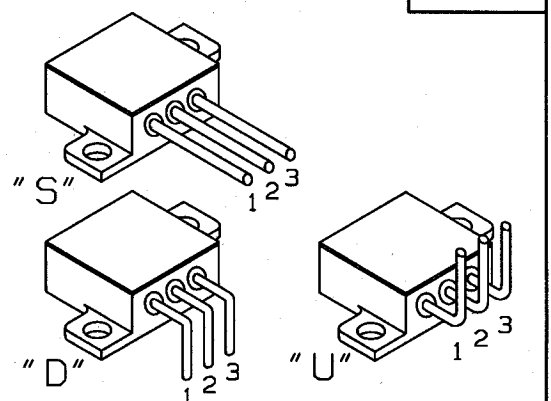


STANDARD BEND CONFIGURATIONS



(CUSTOM BEND OPTIONS AVAILABLE)

STANDARD BEND CONFIGURATIONS



(CUSTOM BEND OPTIONS AVAILABLE)

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)	-	-	25	A
Pulse Source Current (Body Diode) (1)	ISM		-	-	160	A
Diode Forward Voltage (2)	VSD	IF=25A, VGS=0V Tc=+25°C	-	-	2.5	V
Reverse Recovery Time	trr	Tc=+25°C	-	-	370	ns
Reverse Recovery Charge	Qrr	IF=25A di/dt=100A/μS	-	3.3	-	μC

(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.