

N-CHANNEL ENHANCEMENT MOS FET

ABSOLUTE MAXIMUM RATINGS			
PARAMETER	SYMBOL		UNITS
Drain-source Volt.(1)	VDSS	60	Vdc
Drain-Gate Voltage (Rgs=1.0M Ω) (1)	VDGR	60	Vdc
Gate-Source Voltage Continuous	VGS	± 20	Vdc
Drain Current Continuous (Tc = 25°C)	ID	30	Adc
Drain Current Pulsed(3)	IDM	.320	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

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 μ A	60	-	-	V
Gate Threshold Voltage	VGS(TH)	VDS=VGS ID=250 μ A	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	μ A
		VDS=0.8 MAX.RATING VGS=0 TJ=125°C	-	-	1000	μ A
Static Drain-Source On-State Resistance(1,2)	RDS(ON)	VGS=10 V ID=53A	-	-	.022	Ω
Forward Trans-Conductance (2)	gfs	VDS \geq 25 V IDS=53A	31	-	-	S(U)
Input Capacitance	CISS	VGS=0V VDS=88V f=1.0 MHz	-	4600	-	pF
Output Capacitance	COSS		-	2100	-	pF
Reverse Transfer Capacitance	CRSS		-	300	-	pF
Turn-On Delay	td(on)	VDD=25V RG=6.2 Ω ID=75A(2) RD=.33 Ω (MOSFET switching times are essentially independent of operating temp.)	-	-	35	ns
Rise Time	tr		-	-	450	ns
Turn-Off Delay	td(off)		-	-	98	ns
Fall Time	tf		-	-	280	ns
Total Gate Charge (Gate-Source Plus Gate-Drain)	Qg		VGS=10V, ID=75A VDS=0.8 MAX.RATING (Gate charge is essentially independent of the operating temperature)	-	-	150
Gate-Source Charge	Qgs		-	-	37	nC
Gate-Drain ("Miller") Charge	Qgd		-	-	68	nC

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)	-	-	30	A
Pulse Source Current (Body Diode) (1)	ISM		-	-	320	A
Diode Forward Voltage (2)	VSD	IF=88A, VGS=0V Tc=+25°C	-	-	2.5	V
Reverse Recovery Time	t _{rr}	Tc=+25°C	-	-	320	ns
Reverse Recovery Charge	Q _{rr}	IF=88A di/dt=100A/ μ S	-	2.5	-	μ C

(1) TJ = 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.

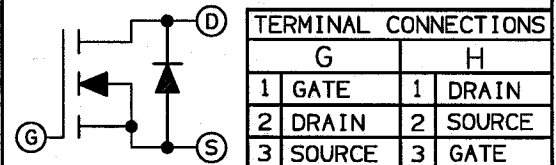
60V, 30A, 0.022 Ω

SDF054 JAA
SDF054 JAB

FEATURES

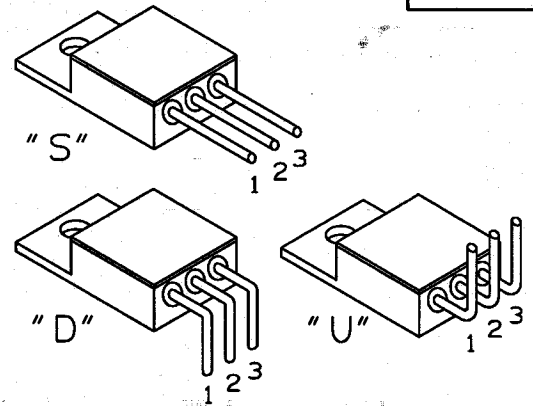
- RUGGED PACKAGE
- HI-REL CONSTRUCTION
- CERAMIC EYELETS
- LEAD BENDING OPTIONS
- COPPER CORED 52 ALLOY PINS
- LOW IR LOSSES
- LOW THERMAL RESISTANCE
- OPTIONAL MIL-S-19500 SCREENING

SCHEMATIC



STANDARD BEND CONFIGURATIONS

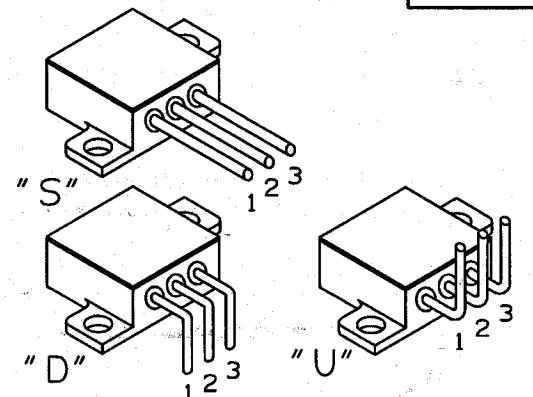
JAA



(CUSTOM BEND OPTIONS AVAILABLE)

STANDARD BEND CONFIGURATIONS

JAB



(CUSTOM BEND OPTIONS AVAILABLE)