

PRODUCT CATALOG

N-CHANNEL ENHANCEMENT MOS FET

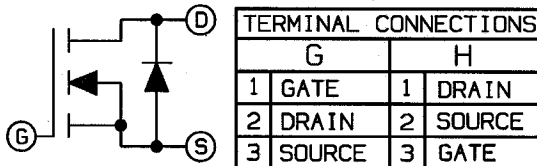
400V, 10A, 0.56 Ω

SDF340 JAA
SDF340 JAB

FEATURES

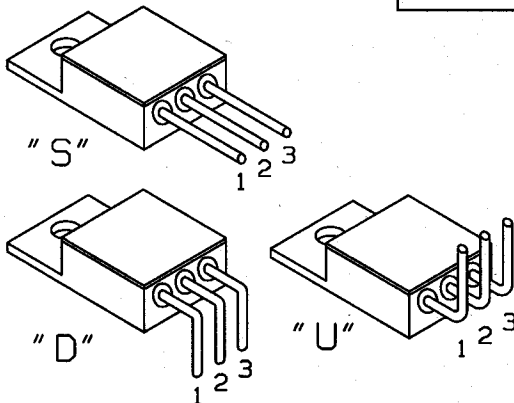
- RUGGED PACKAGE
- HI-REL CONSTRUCTION
- CERAMIC EYELETS
- LEAD BENDING OPTIONS
- COPPER CORED 52 ALLOY PINS
- LOW IR LOSSES
- LOW THERMAL RESISTANCE
- OPTIONAL MIL-S-19500 SCREENING

SCHEMATIC



STANDARD BEND CONFIGURATIONS

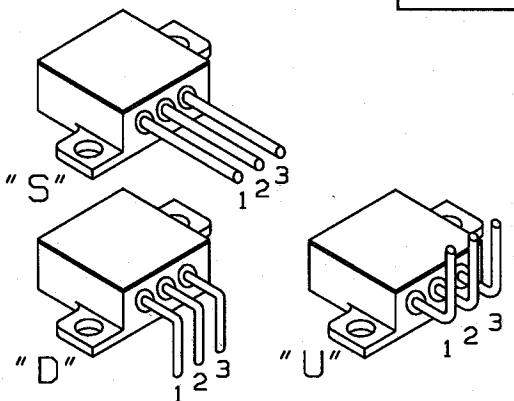
JAA



(CUSTOM BEND OPTIONS AVAILABLE)

STANDARD BEND CONFIGURATIONS

JAB



(CUSTOM BEND OPTIONS AVAILABLE)

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL		UNITS
Drain-source Volt.(1)	VDSS	400	Vdc
Drain-Gate Voltage (RGS=1.0Ma) (1)	VDGR	400	Vdc
Gate-Source Voltage Continuous	VGS	± 20	Vdc
Drain Current Continuous (Tc = 25°C)	ID	10	Adc
Drain Current Pulsed(3)	IDM	40	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	RthJc	1.2	°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	400	-	-	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)	RDS(ON)	VGS=10 V ID=5.2A	-	-	0.56	Ω
Forward Trans-Conductance (2)	gfs	VDS ≥ 50 V IDS=5.2A	5.8	-	-	S(U)
Input Capacitance	CISS	VGS=0V VDS=25 V f=1.0 MHz	-	1300	-	pF
Output Capacitance	COSS		-	210	-	pF
Reverse Transfer Capacitance	CRSS		-	37	-	pF
Turn-On Delay	td(on)	VDD=200V RG=9.1 Ω ID=10A RD=20 Ω	-	-	21	ns
Rise Time	tr	(MOSFET switching times are essentially independent of operating temp.)	-	-	41	ns
Turn-Off Delay	td(off)		-	-	75	ns
Fall Time	tf		-	-	36	ns
Total Gate Charge (Gate-Source Plus Gate-Drain)	Qg	VGS=10V, ID=10A	-	-	63	nC
Gate-Source Charge	Qgs	VDS=0.8 MAX.RATING (Gate charge is essentially independent of the operating temperature)	-	-	9.0	nC
Gate-Drain ("Miller") Charge	Qgd		-	-	32	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)	-	-	10	A
Pulse Source Current (Body Diode) (1)	ISM		-	-	40	A
Diode Forward Voltage (2)	VSD	IF=10A, VGS=0V Tc=+25°C	-	-	2.0	V
Reverse Recovery Time	trr	Tc=+25° C	-	-	790	ns
Reverse Recovery Charge	Qrr	IF=10A di/dt=100A/ μ S	-	3.8	-	μ C

REV. 10/93

- (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.