

PRODUCT CATALOG

N-CHANNEL ENHANCEMENT MOS FET

3301 ELECTRONICS WAY, WEST PALM BEACH, FLORIDA 33407
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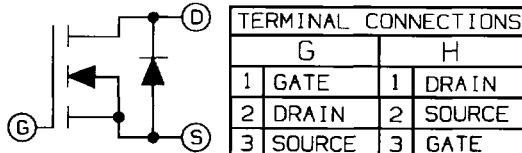
400V, 10A, 0.56 Ω

SDF340 JAA
 SDF340 JAB

FEATURES

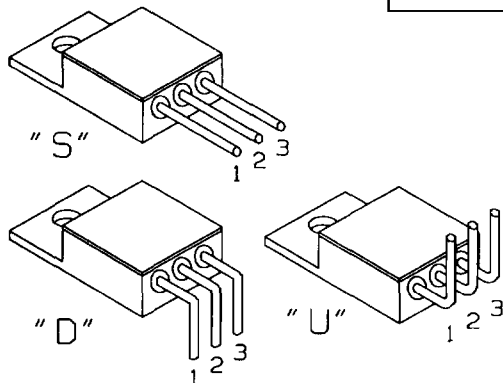
- RUGGED PACKAGE
- HI-REL CONSTRUCTION
- CERAMIC EYELETS
- LEAD BENDING OPTIONS
- COPPER CORED 52 ALLOY PINS
- LOW IR LOSSES
- LOW THERMAL RESISTANCE
- OPTIONAL MIL-S-19500 SCREENING

SCHEMATIC



STANDARD BEND CONFIGURATIONS

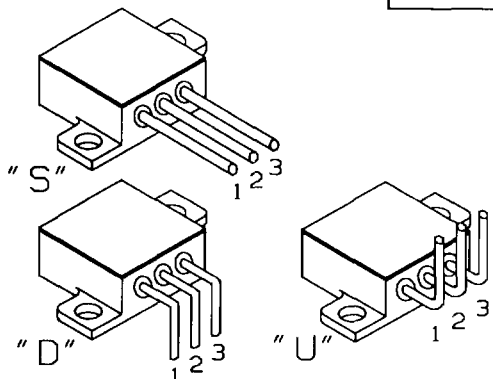
JAA



(CUSTOM BEND OPTIONS AVAILABLE)

STANDARD BEND CONFIGURATIONS

JAB



(CUSTOM BEND OPTIONS AVAILABLE)

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL		UNITS
Drain-source Volt. (1)	V _{DSS}	400	V _{dc}
Drain-Gate Voltage (R _{GS} =1.0M Ω) (1)	V _{DGR}	400	V _{dc}
Gate-Source Voltage Continuous	V _{GS}	± 20	V _{dc}
Drain Current Continuous (T _c = 25°C)	I _D	10	A _{dc}
Drain Current Pulsed (3)	I _{DM}	40	A
Total Power Dissipation	P _D	100	W
Power Dissipation Derating > 25°C		0.83	W/°C
Operating & Storage Temp.	T _J /T _{sig}	-55 TO +150	°C
Thermal Resistance	R _{thJc}	1.2	°C/W
Max. Lead temperature	T _L	300	°C

ELECTRICAL CHARACTERISTICS T_c = 25°C (UNLESS OTHERWISE SPECIFIED)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Drain-source Breakdown Volt.	V _{(BR)DSS}	V _{GS} =0V I _D =250 μ A	400	-	-	V
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} I _D =250 μ A	2.0	-	4.0	V
Gate Source Leakage	I _{GSS}	V _{GS} = ± 20 V	-	-	100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =MAX. RATING V _{GS} =0	-	-	250	μ A
		V _{DS} =0.8 MAX. RATING V _{GS} =0 T _J =125°C	-	-	1000	μ A
Static Drain-Source On-State Resistance (1)	R _{DS(ON)}	V _{GS} =10 V I _D =5.2A	-	-	0.56	Ω
Forward Trans-Conductance (2)	g _{fs}	V _{DS} \geq 50 V I _{DS} =5.2A	5.8	-	-	S(O)
Input Capacitance	C _{ISS}		-	1300	-	pF
Output Capacitance	C _{OSS}	V _{GS} =0V V _{DS} =25 V f=1.0 MHz	-	210	-	pF
Reverse Transfer Capacitance	C _{RSS}		-	37	-	pF
Turn-On Delay	t _{d(on)}	V _{DD} =200V R _G =9.1 Ω I _D =10A R _D =20 Ω	-	-	21	ns
Rise Time	t _r	(MOSFET switching times are essentially independent of operating temp.)	-	-	41	ns
Turn-Off Delay	t _{d(off)}		-	-	75	ns
Fall Time	t _f		-	-	36	ns
Total Gate Charge (Gate-Source Plus Gate-Drain)	Q _g	V _{GS} =10V, I _D =10A	-	-	63	nC
Gate-Source Charge	Q _{gs}	V _{DS} =0.8 MAX. RATING (Gate charge is essentially independent of the operating temperature)	-	-	9.0	nC
Gate-Drain ("Miller") Charge	Q _{gd}		-	-	32	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)	I _S	Modified MOSFET symbol showing the integral reverse P-N junction rectifier (See schematic)	-	-	10	A
Pulse Source Current (Body Diode) (1)	I _{SM}		-	-	40	A
Diode Forward Voltage (2)	V _{SD}	I _F =10A, V _{GS} =0V T _c =+25°C	-	-	2.0	V
Reverse Recovery Time	t _{rr}	T _c =+25°C	-	-	790	ns
Reverse Recovery Charge	Q _{rr}	I _F =10A di/dt=100A/ μ S	-	3.8	-	μ C

REV. 10/93

- (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.