

ABSOLUTE MAXIMUM RATINGS			
PARAMETER	SYMBOL		UNITS
Drain-source Volt.(1)	V <sub>DSS</sub>	400	V <sub>dc</sub>
Drain-Gate Voltage (R <sub>GS</sub> =1.0M $\Omega$ ) (1)	V <sub>DGR</sub>	400	V <sub>dc</sub>
Gate-Source Voltage Continuous	V <sub>GS</sub>	$\pm 20$	V <sub>dc</sub>
Drain Current Continuous (T <sub>c</sub> = 25°C)	I <sub>D</sub>	15	A <sub>dc</sub>
Drain Current Pulsed(3)	I <sub>DM</sub>	60	A
Total Power Dissipation	P <sub>D</sub>	150	W
Power Dissipation Derating > 25°C		1.2	W/°C
Operating & Storage Temp.	T <sub>J</sub> /T <sub>sig</sub>	-55 TO +150	°C
Thermal Resistance	R <sub>thJc</sub>	0.8	°C/W
Max. Lead temperature	TL	300	°C

ELECTRICAL CHARACTERISTICS T <sub>c</sub> = 25°C (UNLESS OTHERWISE SPECIFIED)						
PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Drain-source Breakdown Volt.	V <sub>(BR)DSS</sub>	V <sub>GS</sub> =0V I <sub>D</sub> =250 $\mu$ A	400	-	-	V
Gate Threshold Voltage	V <sub>GS(TH)</sub>	V <sub>D</sub> =V <sub>GS</sub> I <sub>D</sub> =250 $\mu$ A	2.0	-	4.0	V
Gate Source Leakage	I <sub>GSS</sub>	V <sub>GS</sub> = $\pm 20$ V	-	-	100	nA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>D</sub> =MAX. RATING V <sub>GS</sub> =0	-	-	250	$\mu$ A
		V <sub>D</sub> =0.8 MAX. RATING V <sub>GS</sub> =0 T <sub>J</sub> =125°C	-	-	1000	$\mu$ A
Static Drain-Source On-State Resistance(1)	R <sub>DS(ON)</sub>	V <sub>GS</sub> =10 V I <sub>D</sub> =8.0A	-	-	0.30	$\Omega$
Forward Trans-Conductance (2)	g <sub>fs</sub>	V <sub>D</sub> $\geq$ 50 V I <sub>D</sub> =8.0A	8.0	-	-	S(V)
Input Capacitance	C <sub>ISS</sub>	V <sub>GS</sub> =0V V <sub>D</sub> =25 V f=1.0 MHz	-	2000	-	pF
Output Capacitance	C <sub>OSS</sub>		-	400	-	pF
Reverse Transfer Capacitance	C <sub>RSS</sub>		-	100	-	pF
Turn-On Delay	t <sub>d(on)</sub>	V <sub>DD</sub> =180V R <sub>G</sub> =6.2 $\Omega$ I <sub>D</sub> =8.0A R <sub>D</sub> =13 $\Omega$ (MOSFET switching times are essentially independent of operating temp.)	-	-	35	ns
Rise Time	t <sub>r</sub>		-	-	65	ns
Turn-Off Delay	t <sub>d(off)</sub>		-	-	150	ns
Fall Time	t <sub>f</sub>	-	-	75	ns	
Total Gate Charge (Gate-Source Plus Gate-Drain)	Q <sub>g</sub>	V <sub>GS</sub> =10V, I <sub>D</sub> =15A V <sub>D</sub> =0.8 MAX. RATING (Gate charge is essentially independent of the operating temperature)	52	-	110	nC
Gate-Source Charge	Q <sub>gs</sub>		5.3	-	18	nC
Gate-Drain ("Miller") Charge	Q <sub>gd</sub>		25	-	65	nC

SOURCE-DRAIN DIODE RATINGS & CHARACT. T <sub>c</sub> = 25°C (UNLESS OTHERWISE SPECIFIED)						
PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Continuous Source Current (Body Diode)	I <sub>S</sub>	Modified MOSFET symbol showing the integral reverse P-N junction rectifier (See schematic)	-	-	15	A
Pulse Source Current (Body Diode) (1)	I <sub>SM</sub>		-	-	60	A
Diode Forward Voltage (2)	V <sub>SD</sub>	I <sub>F</sub> =15A, V <sub>GS</sub> =0V T <sub>c</sub> =+25°C	-	-	1.6	V
Reverse Recovery Time	t <sub>rr</sub>	T <sub>c</sub> =+25°C	-	-	1300	ns
Reverse Recovery Charge	Q <sub>rr</sub>	I <sub>F</sub> =15A di/dt=100A/ $\mu$ S	-	6.6	-	$\mu$ C

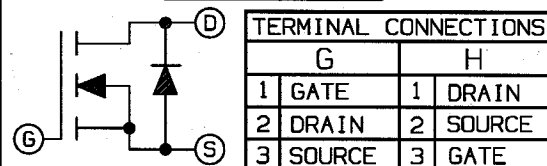
400V, 15A, 0.30  $\Omega$

SDF350 JAA  
SDF350 JAB

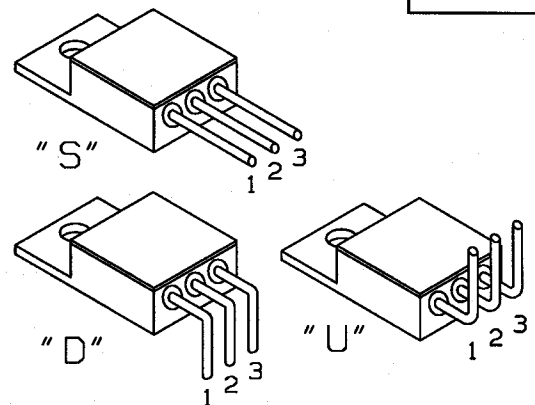
### FEATURES

- 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

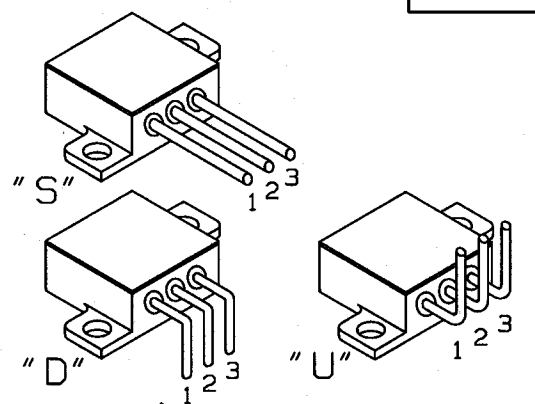


STANDARD BEND CONFIGURATIONS



(CUSTOM BEND OPTIONS AVAILABLE)

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(1) T<sub>J</sub> = 25°C to 150°C.  
(2) Pulse test: Pulse Width < 300 $\mu$ S, Duty Cycle < 2%.  
(3) Repetitive Rating: Pulse Width limited By Max. Junction Temperature.