



# SFF130-28

**SOLID STATE DEVICES, INC**

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**ELECTRICAL CHARACTERISTICS @ T<sub>J</sub>=25°C (Unless Otherwise Specified)**

RATING		SYMBOL	MIN	TYP	MAX	UNIT
Drain to Source Breakdown Voltage (V <sub>GS</sub> =0 V, I <sub>D</sub> =250μA)		BV <sub>DSS</sub>	100	---	---	V
Temperature Coefficient of Breakdown Voltage		$\frac{\Delta BV_{DSS}}{\Delta T_J}$	---	0.13	---	V/°C
Drain to Source on State Resistance (V <sub>GS</sub> =10 V)	I <sub>D</sub> = 9A I <sub>D</sub> = 14A	R <sub>DS(on)</sub>	---	0.13 0.14	0.18 0.21	Ω
On State Drain Current (V <sub>DS</sub> > I <sub>D(on)</sub> X R <sub>DS(on)</sub> Max, V <sub>GS</sub> =10 V)		I <sub>D(on)</sub>	14	---	---	A
Gate Threshold Voltage (V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA)		V <sub>GS(th)</sub>	2	2.8	4	V
Forward Transconductance (V <sub>DS</sub> > I <sub>D(on)</sub> X R <sub>DS(on)</sub> Max, I <sub>DS</sub> =60% rated I <sub>D</sub> )		g <sub>fs</sub>	4.6	7	--	S(V)
Zero Gate Voltage Drain Current (V <sub>DS</sub> =80% rated voltage, V <sub>GS</sub> =0 V) (V <sub>DS</sub> =80% rated V <sub>DS</sub> , V <sub>GS</sub> =0 V, T <sub>A</sub> =125°C)		I <sub>DSS</sub>	---	---	25 250	μA
Gate to Source Leakage Forward Gate to Source Leakage Reverse	At rated V <sub>GS</sub>	I <sub>GSS</sub>	---	---	100 -100	nA
Total Gate Charge Gate to Source Charge Gate to Drain Charge	V <sub>GS</sub> =10 Volts 50% rated V <sub>DS</sub> Rated I <sub>D</sub>	Q <sub>g</sub> Q <sub>gs</sub> Q <sub>gd</sub>	12 1.5 5	20 ---	35 10 15	nC
Turn on Delay Time Rise Time Turn Off Delay Time Fall Time	V <sub>DD</sub> =50% rated V <sub>DS</sub> I <sub>D</sub> = 14A R <sub>G</sub> =7.5Ω	t <sub>d(on)</sub> t <sub>r</sub> t <sub>d(off)</sub> t <sub>f</sub>	---	9.5 42 22 25	35 80 60 45	nsec
Diode Forward Voltage (I <sub>S</sub> =rated I <sub>D</sub> , V <sub>GS</sub> =0 V, T <sub>J</sub> =25°C)		V <sub>SD</sub>	---	1.15	1.5	V
Diode Reverse Recovery Time Reverse Recovery Charge	T <sub>J</sub> =25°C I <sub>F</sub> =rated I <sub>D</sub> di/dt=100 A/μsec	t <sub>rr</sub> Q <sub>RR</sub>	---	120 0.7	300 3	nsec μC
Input Capacitance Output Capacitance Reverse Transfer Capacitance	V <sub>GS</sub> =0 Volts V <sub>DS</sub> =25 Volts f= 1 MHz	C <sub>iss</sub> C <sub>oss</sub> C <sub>rss</sub>	---	650 250 44	---	pF

For thermal derating curves and other characteristic curves please contact SSDI Marketing Department.