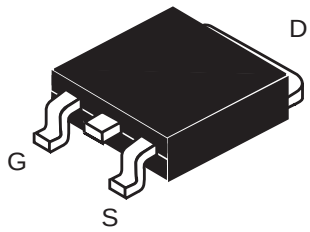
South Sea Semiconductor

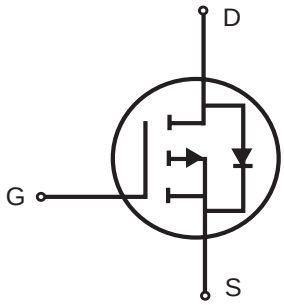
SSD3030P

P-Channel Enhancement Mode MOSFET

Product Summary		
V_{DS} (V)	I_D (A)	$R_{DS(ON)}$ (mΩ) Max
-30V	-30A	30 @V_{GS} = -10V
		45 @V_{GS} = -4.5V

TO-252





FEATURES

- Super high dense cell design for low $R_{DS(ON)}$.
- Rugged and reliable.
- TO-252 package.

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)			
Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	±20	V
Drain Current-Continuous @ T_J = 125°C	I_D	-30	A
-Pulsed [b]	I_{DM}	-60	A
Drain-Source Diode Forward Current [a]	I_S	-1.7	A
Maximum Power Dissipation[a]	P_D	50	W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	°C
THERMAL CHARACTERISTICS			
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	3	°C/W
Thermal Resistance, Junction-to-Ambient [a]	$R_{\theta JA}$	50	

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P-Channel Electrical Characteristics (T_A = 25°C unless otherwise noted)						
Parameter	Symbol	Condition	Min	Typ[c]	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V, I_D=-250μA	-30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-24V, V_{GS}=0V			-1	μA
Gate-Body Leakage	I_{GSS}	V_{GS}=±20V, V_{DS}=0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=-250μA	-1	-1.5	-2.5	V
Drain-Source On-State Resistance	$R_{DS(ON)}$	V_{GS}=-10V, I_D=-20A			30	mΩ
		V_{GS}=-4.5V, I_D=-10A			45	
On-State Drain Current	$I_{D(ON)}$	V_{DS}=-5V, V_{GS}=-10V	-40			A
Forward Transconductance	g_{FS}	V_{DS}=-5V, I_D=-5.3A	5			S
Input Capacitance	C_{ISS}	V_{DS}=-15V		800		pF
Output Capacitance	C_{OSS}	V_{GS}=0V		180		
Reverse Transfer Capacitance	C_{RSS}	f=1.0MHz		105		
Turn-On Delay Time	$t_{D(ON)}$	V_{DD}=-15V,		12.5		ns
Rise Time	t_r	I_D=-1A,		13.5		
Turn-Off Delay Time	$t_{D(OFF)}$	V_{GEN}=-10V,		84		
Fall Time	t_f	R_{GEN}=6Ω,		39.5		
Total Gate Charge	Q_g	V_{DS}=-15V, I_D=-5.3A, V_{GS}=-10V		20		nC
		V_{DS}=-15V, I_D=-5.3A, V_{GS}=-4.5V		10.5		
Gate-Source Charge	Q_{gs}	V_{DS}=-15V, I_D=-5.3A, V_{GS}=-10V		2.4		
Gate-Drain Charge	Q_{gd}			5		
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_D=-1.7A		-0.75	-1.2	V

Notes：

a. Surface Mounted on FR4 Board, t ≤10 sec.

b. Pulse Test：Pulse Width ≤ 300 μs, Duty Cycle ≤ 2%.

c. Guaranteed by design, not subject to production testing.