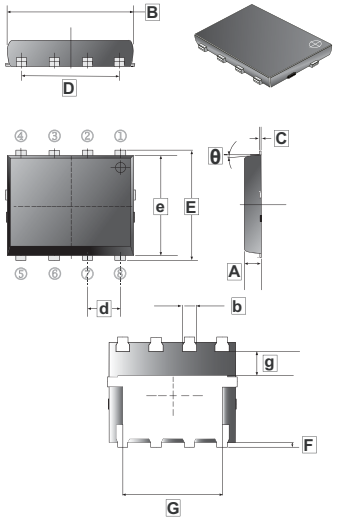
Elektronische Bauelemente

SSP7421P

-20 A, -20 V, $R_{DS(ON)}$ 8.4 mΩ
P-Channel Enhancement MOSFET

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

SOP-8PP



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.00	1.10	θ	0°	12°
B	5.70	5.80	b	0.33	0.51
C	0.20	0.30	d	1.27BSC	
D	3.61	3.98	e	1.35	1.75
E	5.40	6.10	g	1.10	-
F	0.08	0.20			
G	3.60	3.99			

DESCRIPTION

These miniature surface mount MOSFETs utilize a high cell density trench process to provide low $R_{DS(on)}$ and to ensure minimal power loss and heat dissipation. Typical applications are DC-DC converters and power management in portable and battery-powered products such as computers, printers, PCMCIA cards, cellular and cordless telephones.

FEATURES

- Low $R_{DS(on)}$ provides higher efficiency and extends battery life.
- Low thermal impedance copper leadframe SOP-8PP saves board space.
- Fast switching speed.
- High performance trench technology.

PRODUCT SUMMARY

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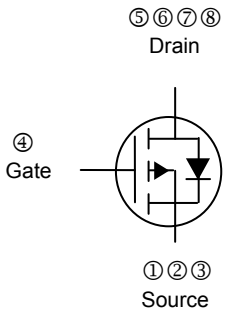
V_{DS}(V)	R_{DS}(on) (mΩ)	I_D(A)
-20	8.4@V_{GS}= -4.5V	-20
	10.4@V_{GS}= -2.5V	-18



ABSOLUTE MAXIMUM RATINGS AND THERMAL DATA(T_A = 25°C unless otherwise specified)

PARAMETER		SYMBOL	RATING	UNIT
Drain-Source Voltage		V_{DS}	-20	V
Gate-Source Voltage		V_{GS}	±8	V
Continuous Drain Current [A]	T_A=25°C	I_D	-20	A
	T_A=70°C		-17	
Pulsed Drain Current [B]		I_{DM}	±50	A
Continuous Source Current (Diode Conduction) [A]		I_S	-2.1	A
Power Dissipation [A]	T_A=25°C	P_D	5.0	W
	T_A=70°C		3.2	
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55 ~ 150	°C
THERMAL RESISTANCE DATA				
Maximum Junction to Ambient [A]	t≦10 sec	$R_{\theta JA}$	25	°C / W
	Steady-State		65	

Notes

a. Surface Mounted on 1" x 1" FR4 Board.

b. Pulse width limited by maximum junction temperature.

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise specified)

PARAMETER	SYMBO	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Static						
Gate-Threshold Voltage	$V_{GS(th)}$	-0.4	-	-	V	V_{DS} = V_{GS}, I_D = -250μA
Gate-Body Leakage	I_{GSS}	-	-	±100	nA	V_{DS} = 0V, V_{GS}= ±8V
Zero Gate Voltage Drain Current	I_{DSS}	-	-	-1	μA	V_{DS} = -16V, V_{GS}= 0V
		-	-	-5		V_{DS} = -16V, V_{GS}= 0V, T_J=55°C
On-State Drain Current [A]	$I_{D(ON)}$	-50	-	-	A	V_{DS} = -4.5V, V_{GS}= -10V
Drain-Source On-Resistance [A]	$R_{DS(ON)}$	-	-	8.4	mΩ	V_{GS}= -4.5V, I_D = -13.5A
		-	-	10.4		V_{GS}= -2.5V, I_D = -12A
Forward Transconductance [A]	g_{FS}	-	70	-	S	V_{DS}= -15V, I_D = -11.5A
Diode Forward Voltage	V_{SD}	-	-0.6	-	V	I_S= 2.5A, V_{GS}= 0V
Dynamic [b]						
Total Gate Charge	Q_g	-	66	-	nC	I_D= -13.5A
Gate-Source Charge	Q_{gs}	-	13	-		V_{DS}= -10V
Gate-Drain Charge	Q_{gd}	-	17	-		V_{GS}= -4.5V
Turn-On Delay Time	$Td_{(ON)}$	-	20	-	nS	I_D= -1A, V_{DD}= -10V
Rise Time	T_r	-	23	-		V_{GEN}= -4.5V
Turn-Off Delay Time	$Td_{(OFF)}$	-	289	-		R_L= 6Ω
Fall Time	T_f	-	134	-		

Notes

a. Pulse test：PW ≦ 300 us duty cycle ≦ 2%.

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