Elektronische Bauelemente

SSD50P03-09D

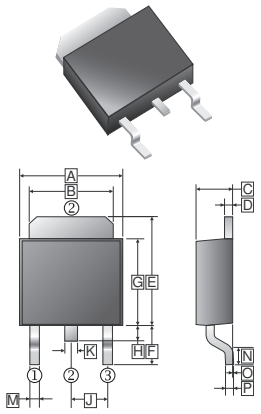
-61A, -30V, $R_{DS(ON)}$ 9mΩ
P-Ch Enhancement Mode Power MOSFET

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

DESCRIPTION

These miniature surface mount MOSFETs utilize high cell density process. Low $R_{DS(on)}$ assures minimal power loss and conserves energy, making this device ideal for use in power management circuitry. Typical applications are PWMDC-DC converters, power management in portable and battery-powered products such as computers, printers, battery charger, telecommunication power system, and telephones power system.

TO-252(D-Pack)



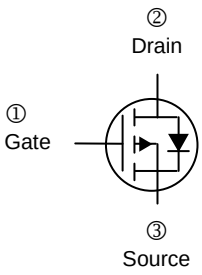
REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	6.4	6.8	J	2.30 REF.	
B	5.20	5.50	K	0.70	0.90
C	2.20	2.40	M	0.50	1.1
D	0.45	0.58	N	0.9	1.6
E	6.8	7.3	O	0	0.15
F	2.40	3.0	P	0.43	0.58
G	5.40	6.2			
H	0.8	1.20			

FEATURES

- Low $R_{DS(on)}$ provides higher efficiency and extends battery life.
- Miniature TO-252 surface mount package saves board space.
- High power and current handling capability.
- Extended V_{GS} range (±25) for battery pack applications.

PACKAGE INFORMATION

Package	MPQ	Leader Size
TO-252	2.5K	13 inch



ABSOLUTE MAXIMUM RATINGS (T_A=25℃ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	±25	V
Continuous Drain Current@ T_A=25℃ [1]	I_D	-61	A
Pulsed Drain Current [2]	I_{DM}	±40	A
Continuous Source Current (Diode Conduction) [1]	I_S	-30	A
Total Power Dissipation@ T_A=25℃ [1]	P_D	50	W
Maximum Thermal Resistance from Junction to Ambient [1]	$R_{\theta JA}$	50	℃/ W
Maximum Thermal Resistance from Junction to Case	$R_{\theta JC}$	3	℃/ W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 ~ 175	℃

Notes:
1. Surface Mounted on 1" x 1" FR4 Board.
2. Pulse width limited by maximum junction temperature.

ELECTRICAL CHARACTERISTICS (T_A=25℃ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Static						
Gate-Threshold Voltage	$V_{GS(th)}$	-1	-	-		V_{DS}=V_{GS}, I_D= -250 μA
Gate-Body Leakage Current	I_{GSS}	-	-	±100	nA	V_{DS}=0V, V_{GS}= ±25V
Zero Gate Voltage Drain Current	I_{DSS}	-	-	-1	μA	V_{DS}= -24V, V_{GS}=0
		-	-	-5		V_{DS}= -24V, V_{GS}=0V, T_J=55℃
On-State Drain Current [1]	$I_{D(on)}$	-41	-	-	A	V_{DS}= -5V, V_{GS}= -10V
Drain-Source On-Resistance [1]	$R_{DS(ON)}$	-	-	9	mΩ	V_{GS}= -10V, I_D= -61A
		-	-	13		V_{GS}= -4.5V, I_D= -51A
Forward Transconductance [1]	g_{fs}	-	31	-	S	V_{DS}= -15V, I_D= -61A
Diode Forward Voltage	V_{SD}	-	-0.7	-	V	I_S= -41A, V_{GS}=0
Dynamic						
Total Gate Charge	Q_g	-	37	-	nC	V_{DS}= -15V V_{GS}= -4.5V I_D= -61A
Gate-Source Charge	Q_{gs}	-	10	-		
Gate-Drain Charge	Q_{gd}	-	14.5	-		
Switching						
Turn-on Delay Time	$T_{d(on)}$	-	15	-	nS	V_{DD}= -15V I_D= -41A V_{GEN}= -10V R_L=15Ω R_G=6Ω
Rise Time	T_r	-	12	-		
Turn-off Delay Time	$T_{d(off)}$	-	62	-		
Fall Time	T_f	-	46	-		

Notes:
1. Pulse test：Pulse width≦300μs, duty cycle≦2%.