Elektronische Bauelemente

SGT6920NH

6.8 A, 20 V, $R_{DS(ON)}$ 22 mΩ
Dual-N Enhancement Mode MOSFET

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

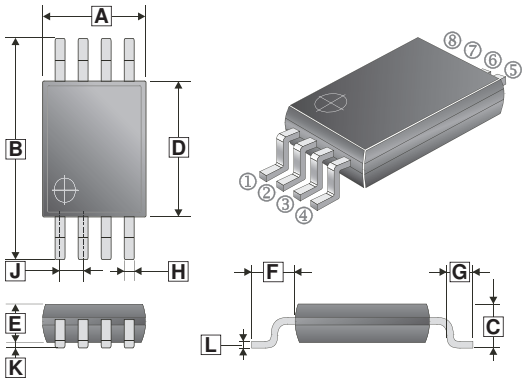
DESCRIPTION

These miniature surface mount MOSFETs utilize a High Cell Density trench process to provide Low $R_{DS(on)}$ and 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, printer , PCMCIA cards, cellular and cordless telephones.

FEATURES

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

TSSOP-8

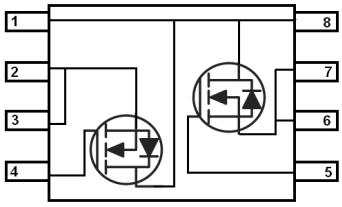


REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.80	3.10	G	0.45	0.75
B	6.20	6.60	H	0.19	0.30
C	1.00	1.20	J	0.65 REF.	
D	4.30	4.50	K	0.05	0.15
E	-	1.15	L	0.127 REF	
F	0.9	1.10			

PACKAGE INFORMATION

Package	MPQ	Leader Size
TSSOP-8L	3K	13' inch

Top View



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

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	±8	V
Continuous Drain Current [1]	T_A=25°C	I_D	6.8	A
	T_A=70°C		5.4	A
Pulsed Drain Current [2]		I_{DM}	30	A
Continuous Source Current (Diode Conduction) [1]		I_S	1.5	A
Power Dissipation [1]	T_A=25°C	P_D	1.2	W
	T_A=70°C		0.8	W
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55 ~ 150	°C
Thermal Resistance Rating				
Maximum Junction to Ambient [1]	t ≦ 10 sec	$R_{\theta JA}$	83	°C / W
	Steady State		120	

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

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Static						
Gate-Threshold Voltage	$V_{GS(th)}$	0.4	-	-	V	V_{DS}=V_{GS}, I_D=250uA
Gate-Body Leakage	I_{GSS}	-	-	±100	nA	V_{DS}=0, V_{GS}=±12V
Zero Gate Voltage Drain Current	I_{DSS}	-	-	1	uA	V_{DS}=16V, V_{GS}=0
		-	-	10		V_{DS}=16V, V_{GS}=0, T_J= 55°C
On-State Drain Current [1]	$I_{D(on)}$	25	-	-	A	V_{DS} =5V, V_{GS}=4.5V
Drain-Source On-Resistance [1]	$R_{DS(ON)}$	-	-	22	mΩ	V_{GS}=4.5V, I_D=1A
		-	-	30		V_{GS}=2.5V, I_D=1A
		-	-	46		V_{GS}=1.8V, I_D=1A
Forward Transconductance [1]	g_{fs}	-	25	-	S	V_{DS}=10V, I_D=1A
Diode Forward Voltage	V_{SD}	-	0.7	-	V	I_S=1A, V_{GS}=0
Dynamic [2]						
Total Gate Charge	Q_g	-	6.2	-	nC	V_{DS}=10V, V_{GS}=4.5V, I_D=1A
Gate-Source Charge	Q_{gs}	-	1	-		
Gate-Drain Charge	Q_{gd}	-	1.9	-		
Turn-on Delay Time	$T_{d(on)}$	-	12	-	nS	V_{DD}=10V, V_{GS}=4.5V, R_{GEN}=10Ω, I_D=1A
Rise Time	T_r	-	15	-		
Turn-off Delay Time	$T_{d(off)}$	-	56	-		
Fall Time	T_f	-	17	-		

Notes:
1 Pulse test：PW ≦ 300 us duty cycle ≦ 2%.
2 Guaranteed by design, not subject to production testing.