Elektronische Bauelemente

SMG2326N

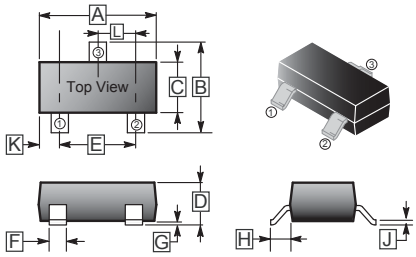
2.2 A, 20 V, $R_{DS(ON)}$ 70 mΩ
N-Channel Enhancement MOSFET

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

SC-59



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	0.10 REF.	
B	2.25	3.00	H	0.40 REF.	
C	1.30	1.70	J	0.10	0.20
D	1.00	1.40	K	0.45	0.55
E	1.70	2.30	L	0.85	1.15
F	0.35	0.50			

FEATURES

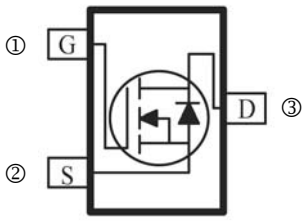
- Low $R_{DS(on)}$ provides higher efficiency and extends battery life.
- Miniature SC-59 surface mount Package saves board space.

Application

DC-DC converters, power management in portable and battery-powered products such as computers, printers, PCMCIA cards, cellular and cordless telephones.

PACKAGE INFORMATION

Package	MPQ	LeaderSize
SC-59	3K	7' inch



ABSOLUTE MAXIMUM RATINGS (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 [1]	T_A=25°C	I_D	2.2	A
	T_A=70°C		1.8	
Pulsed Drain Current [2]		I_{DM}	8	A
Continuous Source Current (Diode Conduction) [1]		I_S	0.6	A
Power Dissipation [1]	T_A=25°C	P_D	1.25	W
	T_A=70°C		0.8	
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55 ~ 150	°C
Thermal Resistance Ratings				
Maximum Junction to Ambient [1]	t≦5 sec	$R_{\theta JA}$	100	°C/W
	Steady-State		166	

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 conditions
Static						
Gate-Threshold Voltage	$V_{GS(th)}$	0.7	-	-	V	V_{DS}=V_{GS}, I_D=250μA
Gate-Body Leakage	I_{GSS}	-	-	1	μA	V_{DS}=0, V_{GS}=12V
Zero Gate Voltage Drain Current	I_{DSS}	-	-	0.1	μA	V_{DS}=16V, V_{GS}=0
		-	-	1		V_{DS}=16V, V_{GS}=0, T_J=55°C
On-State Drain Current [A]	$I_{D(ON)}$	5	-	-	A	V_{DS}=5V, V_{GS}=4.5V
Drain-Source On-Resistance [A]	$R_{DS(ON)}$	-	-	70	mΩ	V_{GS}=4.5V, I_D=2.2A
		-	-	80		V_{GS}=2.5V, I_D=2A
		-	-	120		V_{GS}=1.8V, I_D=1.8A
Forward Transconductance [A]	g_{FS}	-	11	-	S	V_{DS}=5V,,I_D=2A
Diode Forward Voltage	V_{SD}	-	0.6	-	V	I_S=0.6A, V_{GS}=0
Dynamic [2]						
Total Gate Charge	Q_g	-	4.5	-	nC	I_D=2A V_{DS}=10V V_{GS}=4.5V
Gate-Source Charge	Q_{gs}	-	0.89	-		
Gate-Drain Charge	Q_{gd}	-	0.95	-		
Turn-On Delay Time	$Td_{(ON)}$	-	6	-	nS	I_D=1A, V_{DD}=10V V_{GS}=4.5V R_G=6Ω
Rise Time	T_r	-	6.5	-		
Turn-Off Delay Time	$Td_{(OFF)}$	-	14	-		
Fall Time	T_f	-	2	-		

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