Elektronische Bauelemente

SMG2339P

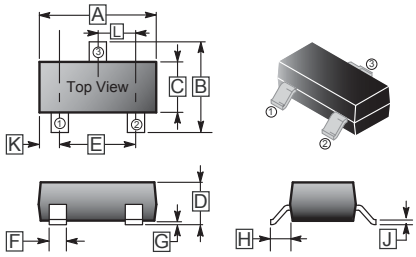
-3.6 A, -30 V, $R_{DS(ON)}$ 0.057 Ω
P-Channel Enhancement MOSFET

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

SC-59

DESCRIPTION

The miniature surface mount MOSFETs utilize a 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 lower voltage application, power management in portable and battery-powered products such as computers, printers, PCMCIA cards, cellular and cordless telephones.



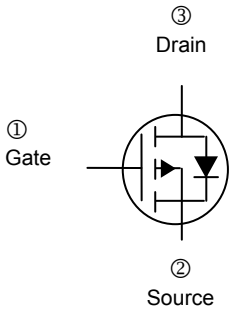
FEATURES

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

REF.	Millimeter Min.	Millimeter Max.	REF.	Millimeter Min.	Millimeter 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			

PRODUCT SUMMARY

PRODUCT SUMMARY		
V_{DS}(V)	R_{DS}(on) (Ω)	I_D(A)
-30	0.057@V_{GS}= -4.5V	-3.6
	0.089@V_{GS}= -2.5V	-2.8



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

PARAMETER		SYMBOL	RATING	UNIT
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	±12	V
Continuous Drain Current [A]	T_A=25°C	I_D	±3.6	A
	T_A=70°C		±2.9	
Pulsed Drain Current [B]		I_{DM}	±10	A
Continuous Source Current (Diode Conduction) [A]		I_S	0.4	A
Power Dissipation [A]	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 DATA				
Maximum Junction to Ambient [A]	t≦5 sec	$R_{\theta JA}$	100	°C/W
	Steady-State		150	

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	$V_{GS(th)}$	-0.80	-	-	V	V_{DS} = V_{GS}, I_D = -250μA
Gate-Body Leakage	I_{GSS}	-	-	±100	nA	V_{DS} = 0V, V_{GS}= ±12V
Zero Gate Voltage Drain Current	I_{DSS}	-	-	-1	μA	V_{DS} = -24V, V_{GS}= 0V
		-	-	-10		V_{DS} = -24V, V_{GS}= 0V, T_J=55°C
On-State Drain Current [A]	$I_{D(ON)}$	-2	-	-	A	V_{DS} = -5V, V_{GS}= -4.5V
Drain-Source On-Resistance [A]	$R_{DS(ON)}$	-	-	57	mΩ	V_{GS}= -4.5V, I_D = -3.6A
		-	-	89		V_{GS}= -2.5V, I_D = -2.8A
Forward Transconductance [A]	g_{FS}	-	2	-	S	V_{DS}= -5V, I_D = -3.6A
Diode Forward Voltage	V_{SD}	-	-0.70	-	V	I_S= -0.4A, V_{GS}= 0V
Dynamic [b]						
Total Gate Charge	Q_g	-	25	-	nC	I_D= -3.6A
Gate-Source Charge	Q_{gs}	-	2.4	-		V_{DS}= -10V
Gate-Drain Charge	Q_{gd}	-	3.9	-		V_{GS}= -5V
Turn-On Delay Time	$Td_{(ON)}$	-	7.6	-	nS	V_{DS}= -15V
Rise Time	T_r	-	6.8	-		I_D= -1A
Turn-Off Delay Time	$Td_{(OFF)}$	-	33.6	-		V_{GEN}= -10V
Fall Time	T_f	-	23.2	-		R_G= 50Ω

Notes

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

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