

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

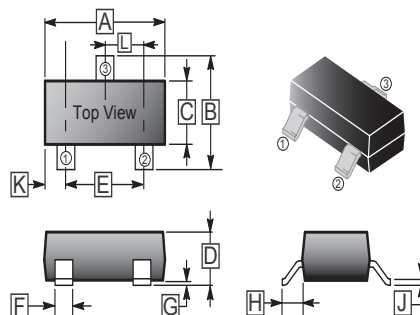
FEATURES

- Low On-Resistance
- Low Gate Threshold Voltage
- Low Input Capacitance
- Fast Switching Speed
- Low Input/Output Leakage

MECHANICAL DATA

- Case: SOT-23
- Case Material: Molded Plastic.
UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating(Matte Tin Finish Annealed over Alloy 42 leadframe)
- Terminal Connections: See Diagram
- Weight: 0.008 grams (approximate)

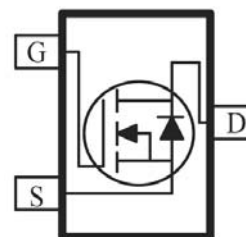
SOT-23



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.04	G	-	0.18
B	2.10	2.80	H	0.40	0.60
C	1.20	1.60	J	0.08	0.20
D	0.89	1.40	K	0.6	REF.
E	1.78	2.04	L	0.85	1.15
F	0.30	0.50			

MARKING

Product	Marking Code
SMS318	H03 / SS



PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-23	3K	7' inch

ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	50	V
Continuous Gate-Source Voltage	V_{GSS}	± 20	V
Continuous Drain Current	I_D	220	mA
Power Dissipation	P_D	350	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	357	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature Range	T_J, T_{STG}	150, -55~150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Teat Conditions
Off Characteristics ²						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	50	-	-	V	V _{GS} = 0, I _D = 250μA
Gate-Body Leakage Current	I _{GSS}	-	-	±100	nA	V _{GS} =±20V, V _{DS} =0
Zero Gate Voltage Drain Current	I _{DSS}	-	-	0.5	μA	V _{GS} =0, V _{DS} =50V
				100	nA	V _{GS} =0, V _{DS} =30V
On Characteristics ²						
Gate Threshold Voltage ¹	V _{GS(th)}	0.8	-	1.5	V	V _{DS} = V _{GS} , I _D =1mA
Static Drain-Source On Resistance ¹	R _{DS(ON)}	-	-	3.5	Ω	V _{GS} =10V, I _D =0.22A
		-	-	6		V _{GS} =4.5V, I _D =0.22A
Forward Transconductance ¹	g _{FS}	120	-	-	mS	V _{DS} =10V, I _D =0.22A
Dynamic Characteristics ²						
Input Capacitance	C _{iss}	-	27	-	pF	V _{DS} =25V, V _{GS} =0, f=1MHz
Output Capacitance	C _{oss}	-	13	-		
Reverse Transfer Capacitance	C _{rss}	-	6	-		
Switching Characteristics						
Turn-On Delay Time ^{1,2}	td _(ON)	-	-	5	nS	V _{DD} =30V, V _{DS} =10V, I _D =0.29A, R _{GEN} =6Ω,
Rise time ^{1,2}	tr	-	-	18		
Turn-Off Delay Time ^{1,2}	td _(OFF)	-	-	36		
Fall time ^{1,2}	tr	-	-	14		
Drain-source body diode characteristics						
Body diode forward voltage ¹	V _{SD}	-	-	1.4	V	V _{GS} =0, I _S =0.44A

Notes:

1. Pulse Test ; Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$.
2. These parameters have no way to verify.

CHARACTERISTIC CURVES

