Elektronische Bauelemente

SSF2102

2.1A , 20V , $R_{DS(ON)}$ 60 mΩ

N-Channel Enhancement Mode Power MOSFET

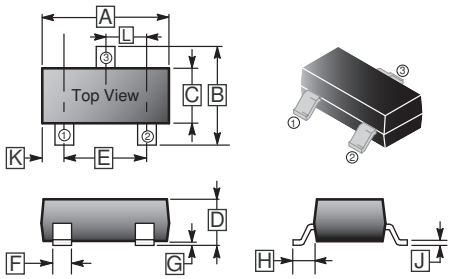
RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

DESCRIPTION

The SSF2102 provide the designer with the best combination of fast switching, ruggedized device design, low on-resistance and cost-effectiveness. The SOT-323 package is universally preferred for all commercial-industrial surface mount applications and suited for low voltage applications such as DC/DC converters.

SOT-323



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.80	2.20	G	0.1 REF.	
B	1.80	2.45	H	0.525 REF.	
C	1.1	1.4	J	0.08	0.25
D	0.80	1.10	K	0.8 TYP.	
E	1.20	1.40	L	0.65 TYP.	
F	0.15	0.40			

FEATURES

- Lower Gate Charge
- Simple Drive Requirement
- Fast Switching Characteristic

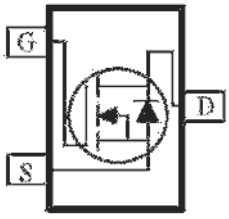
MARKING

TS2

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-323	3K	7 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	I_D	2.1	A
Continuous Source-Drain Current(Diode Conduction)	I_S	0.6	A
Maximum Power Dissipation	P_D	200	mW
Thermal Resistance from Junction to Ambient (t≤5s)	$R_{\theta JA}$	625	℃ / W
Operating Junction & Storage Temperature	T_J, T_{STG}	150, -55~150	℃

ELECTRICAL CHARACTERISTICS (T_J = 25℃ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Teat Conditions
Static						
Drain-Source Breakdown Voltage	BV_{DSS}	20	-	-	V	V_{GS}=0, I_D=10μA
Gate-Threshold Voltage	$V_{GS(th)}$	0.65	0.95	1.2	V	V_{DS}=V_{GS}, I_D=50μA
Gate-Source Leakage Current	I_{GSS}	-	-	±100	nA	V_{GS}= ±8V, V_{DS}=0
Drain-Source Leakage Current	I_{DSS}	-	-	1	μA	V_{DS}=20V, V_{GS}=0
Forward Transconductance [1]	g_{fs}	-	8	-	S	V_{DS}=5V, I_D=3.6A
Diode Forward Voltage	V_{SD}	-	0.76	1.2	V	I_S=0.94A, V_{GS}=0
Static Drain-Source On-Resistance [1]	$R_{DS(ON)}$	-	45	60	mΩ	V_{GS}=4.5V, I_D=3.6A
		-	70	115		V_{GS}=2.5V, I_D=3.1A
Dynamic Characteristics						
Total Gate Charge	Q_g	-	4	-	nC	I_D=3.6A V_{DS}=10V V_{GS}=4.5V
Gate-Source Charge	Q_{gs}	-	0.65	-		
Gate-Drain Change	Q_{gd}	-	1.5	-		
Input Capacitance [2]	C_{iss}	-	300	-	pF	V_{GS} =0 V_{DS}=10V f =1.0MHz
Output Capacitance [2]	C_{oss}	-	120	-		
Reverse Transfer Capacitance [2]	C_{rss}	-	80	-		
Switching Parameters						
Turn-on Delay Time [2]	$T_{d(on)}$	-	7	-	nS	V_{DD}=10V V_{GEN}=4.5V R_G=6Ω R_L=5.5Ω I_D=3.6A
Rise Time [2]	T_r	-	55	-		
Turn-off Delay Time [2]	$T_{d(off)}$	-	16	-		
Fall Time [2]	T_f	-	10	-		

Note:
1. Pulse Test : Pulse width≤300μs, duty cycle ≤2%.
2. These parameters have no way to verify.