Elektronische Bauelemente

SST2019L-C

5A, 20V, $R_{DS(ON)}$ 27mΩ

Dual N-Ch Enhancement Mode Power MOSFET

RoHS Compliant Product

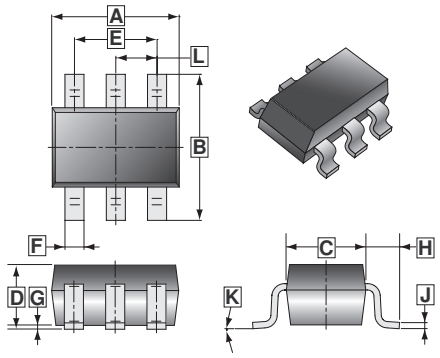
A suffix of "-C" specifies halogen and lead-free

DESCRIPTION

The SST2019L-C is the highest performance trench Dual N-Ch MOSFETs with extreme high cell density, which provide excellent $R_{DS(ON)}$ and gate charge for most of the synchronous buck converter applications.

The SST2019L-C meet the RoHS and Green Product requirement with full function reliability approved.

SOT-26

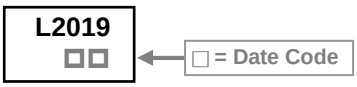


REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	0	0.10
B	2.60	3.00	H	0.60 REF.	
C	1.40	1.80	J	0.12 REF.	
D	-	1.30	K	0°	10°
E	1.90 REF.		L	0.95 REF.	
F	0.25	0.50			

FEATURES

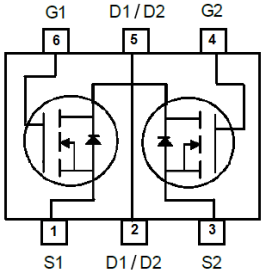
- Advanced High Cell Density Trench Technology
- Super Low Gate Charge
- Green Device Available

MARKING



PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-26	3K	7 inch



ORDER INFORMATION

Part Number	Type
SST2019L-C	Lead (Pb)-free and Halogen-free

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

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±10	V
Continuous Drain Current	I_D	5	A
Pulsed Drain Current [1]	I_{DM}	25	A
Lead Temperature for Soldering Purposes (1/8" from case for 10s)	T_L	260	℃
Operating Junction & Storage Temperature Range	T_J, T_{STG}	-55~150	
Thermal Data			
Thermal Resistance from Junction-Ambient [2]	$R_{\theta JA}$	83.3	℃/W

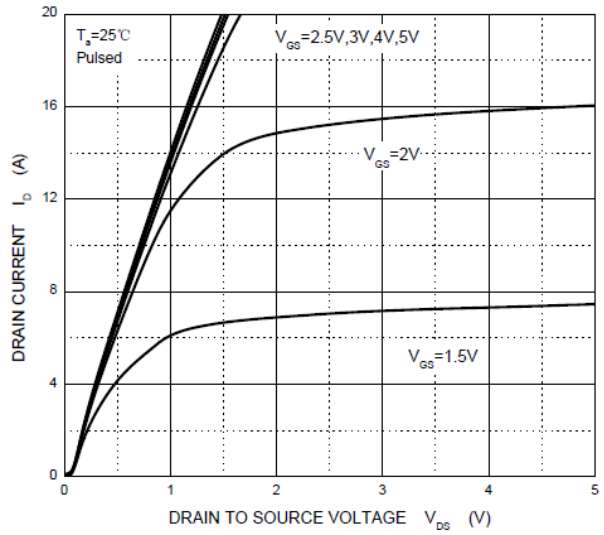
ELECTRICAL CHARACTERISTICS (T_J=25℃ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain-Source Breakdown Voltage	BV_{DSS}	20	-	-	V	V_{GS}=0, I_D=250μA
Gate Threshold Voltage [3]	$V_{GS(th)}$	0.45	-	1.2	V	V_{DS}=V_{GS}, I_D=250μA
Forward Transconductance [3]	g_{fs}	-	10	-	S	V_{DS}=5V, I_D=4.5A
Gate-Source Leakage Current	I_{GSS}	-	-	±100	nA	V_{GS}=±10V, V_{DS}=0
Drain-Source Leakage Current	I_{DSS}	-	-	1	μA	V_{DS}=18V, V_{GS}=0
Static Drain-Source On-Resistance [3]	$R_{DS(ON)}$	-	19.5	27	mΩ	V_{GS}=4.5V, I_D=3A
		-	24	35		V_{GS}=2.5V, I_D=3A
Total Gate Charge	Q_g	-	11	-	nC	I_D=4A V_{DS}=10V V_{GS}=4.5V
Gate-Source Charge	Q_{gs}	-	2.3	-		
Gate-Drain Charge	Q_{gd}	-	2.5	-		
Turn-on Delay Time	$T_{d(on)}$	-	18	-	nS	V_{DD}=10V I_D=1A V_{GS}=4V R_G=10Ω
Rise Time	T_r	-	5	-		
Turn-off Delay Time	$T_{d(off)}$	-	43	-		
Fall Time	T_f	-	20	-		
Input Capacitance	C_{iss}	-	800	-	pF	V_{GS}=0 V_{DS}=8V f=1MHz
Output Capacitance	C_{oss}	-	155	-		
Reverse Transfer Capacitance	C_{rss}	-	125	-		
Source-Drain Diode						
Forward on Voltage [3]	V_{SD}	-	-	1.2	V	V_{GS}=0, I_S=1.25A

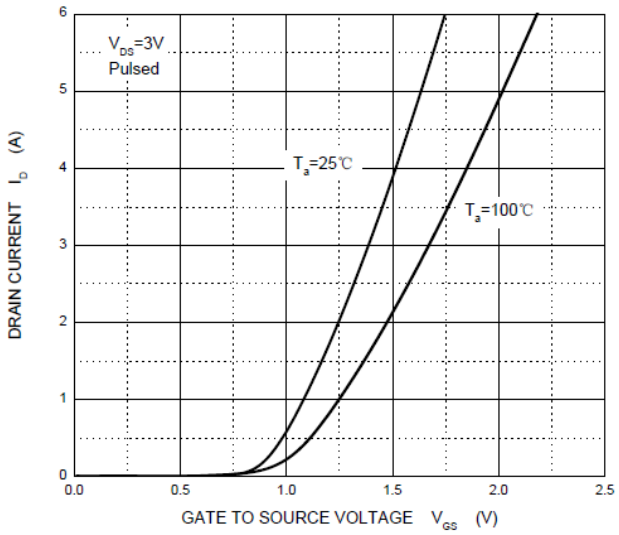
Notes:
1. Repetitive rating: Pulse width limited by maximum junction temperature.
2. Surface mounted on FR-4 board using 1 square inch pad size, 1oz single-side copper.
3. The data tested by pulsed, pulse width≦300us, duty cycle≦2%.

CHARACTERISTIC CURVES

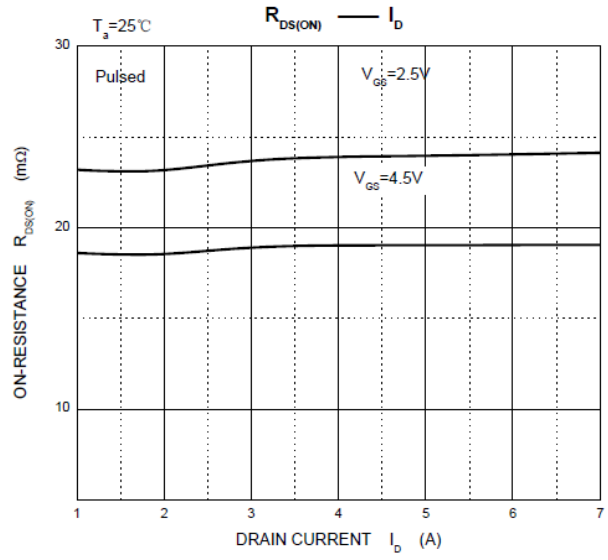
Output Characteristics



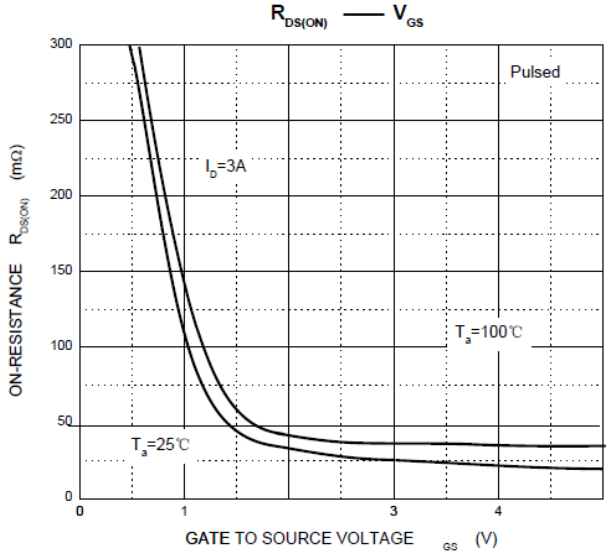
Transfer Characteristics



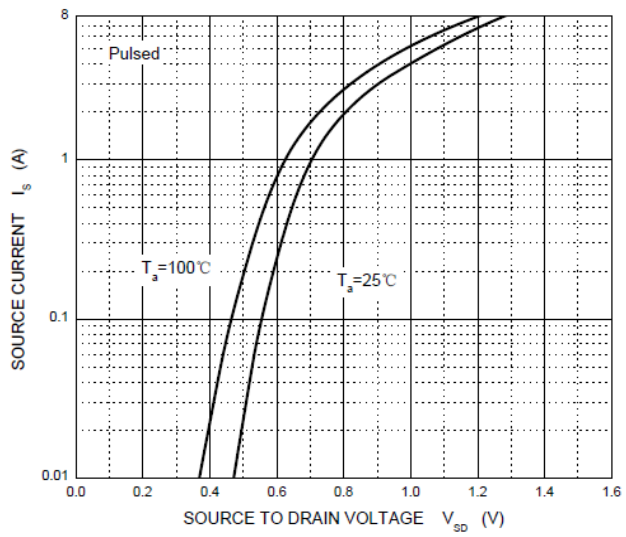
$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}



Threshold Voltage