Elektronische Bauelemente

SST2611B

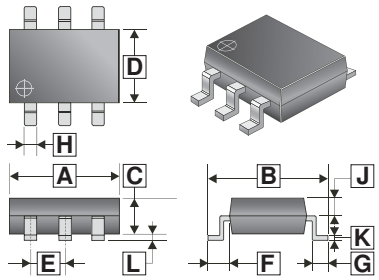
-2.4A , -60V , $R_{DS(ON)}$ 175 mΩ
P-Channel Enhancement Mode MOSFET

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

DESCRIPTION

SST2611B utilized advanced processing techniques to achieve the lowest possible on-resistance, extremely efficient and cost-effectiveness device. The SOT-26 package is universally used for all commercial-industrial applications.

SOT-26

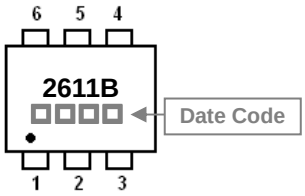


REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	0.37 REF.	
B	2.60	3.00	H	0.30	0.55
C	1.20 REF.		J	-	-
D	1.40	1.80	K	0.12 REF.	
E	0.95 REF.		L	-	0.10
F	0.60 REF.				

FEATURES

- Simple Drive Requirement
- Smaller Outline Package
- Surface mount package

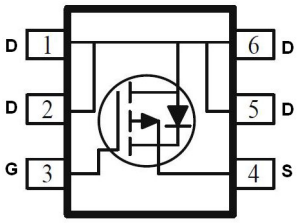
MARKING



PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-26	3K	7 inch

TOP VIEW



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

Parameter		Symbol	Ratings	Unit
Drain-Source Voltage		V_{DS}	-60	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current @ V_{GS}=10V [1]	T_A=25℃	I_D	-2.4	A
	T_A=70℃		-1.7	
Pulsed Drain Current [2]		I_{DM}	-4.5	A
Power Dissipation [3]	T_A=25℃	P_D	1.1	W
Linear Derating Factor			0.009	W / ℃
Operating Junction and Storage Temperature Range		T_j, T_{stg}	-55~150	℃
Thermal Resistance Rating				
Maximum Junction to Ambient [1]		$R_{\theta JA}$	110	℃ / W

ELECTRICAL CHARACTERISTICS (T_J=25°C unless otherwise specified)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Teat Conditions
Static							
Drain-Source Breakdown Voltage		BV_{DSS}	-60	-	-	V	V_{GS}=0, I_D= -250uA
Gate-Threshold Voltage		$V_{GS(th)}$	-1	-	-3	V	V_{DS}=V_{GS}, I_D= -250uA
Gate-Body Leakage Current		I_{GSS}	-	-	±100	nA	V_{GS}=±20V
Drain-Source Leakage Current	T_J=25°C	I_{DSS}	-	-	-1	μA	V_{DS}= -48V, V_{GS}=0
	T_J=55°C		-	-	-5		
Drain-Source On-Resistance [2]		$R_{DS(ON)}$	-	-	175	mΩ	V_{GS}= -10V, I_D= -2A
			-	-	220		V_{GS}= -4.5V, I_D= -1A
Forward Transconductance		g_{fs}	-	5.8	-	S	V_{DS}= -10V, I_D= -2A
Dynamic							
Total Gate Charge[2]		Q_g	-	4.59	-	nC	V_{DS}= -20V, V_{GS}= -4.5V, I_D= -2A
Gate-Source Charge		Q_{gs}	-	1.39	-		
Gate-Drain Charge		Q_{gd}	-	1.62	-		
Turn-on Delay Time[2]		$T_{d(on)}$	-	17.4	-	nS	V_{DS}= -15V, V_{GS}= -10V, R_G=3.3Ω, I_D= -1A
Rise Time		T_r	-	5.4	-		
Turn-off Delay Time		$T_{d(off)}$	-	37.2	-		
Fall Time		T_f	-	2.4	-		
Input Capacitance		C_{iss}	-	531	-	pF	V_{GS}=0, V_{DS}= -15V, f=1.0MHz
Output Capacitance		C_{oss}	-	59	-		
Reverse Transfer Capacitance		C_{rss}	-	38	-		
Source-Drain Diode							
Diode Forward Voltage [2]		V_{SD}	-	-	-1.2	V	I_S= -1A, V_{GS}=0
Continuous Source Current [1,4]		I_S	-	-	-2.4	A	V_G= V_D=0
Pulsed Source Current [2,4]		I_{SM}	-	-	-4.5	A	Force Current

Notes:
1. Surface mounted on a 1 inch2 FR-4 board with 2OZ copper, 156℃/W when mounted on Min. copper pad.
2. The data tested by pulsed, pulse width ≦ 300us, duty cycle ≦ 2%.
3. The power dissipation is limited by 150℃ junction temperature.
4. The data is theoretically the same as ID and IDM, in real applications, should be limited by total power dissipation.

CHARACTERISTIC CURVES

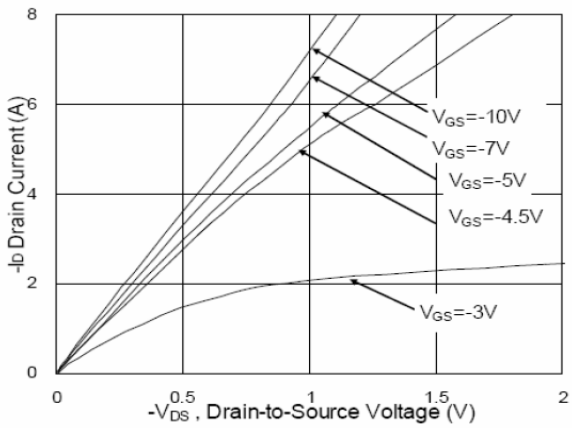


Fig.1 Typical Output Characteristics

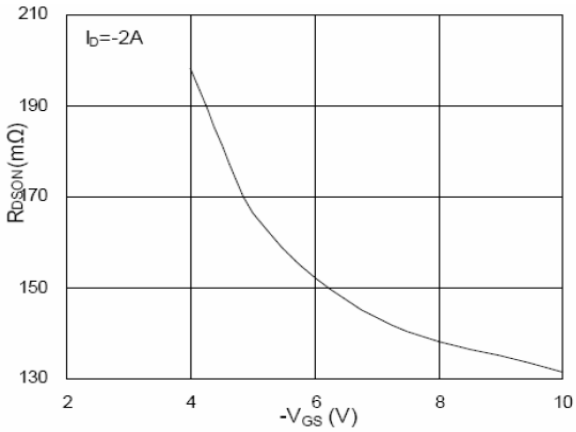


Fig.2 On-Resistance v.s Gate-Source

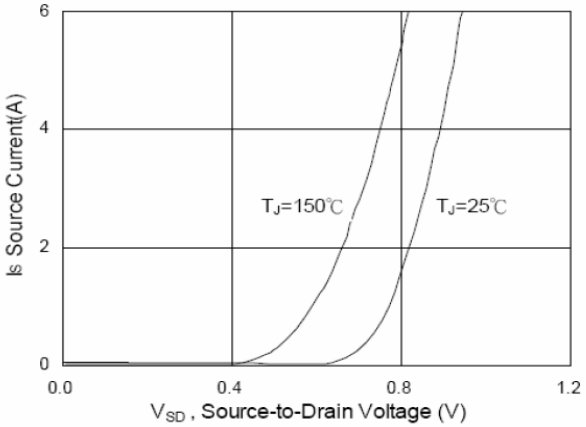


Fig.3 Forward Characteristics Of Reverse

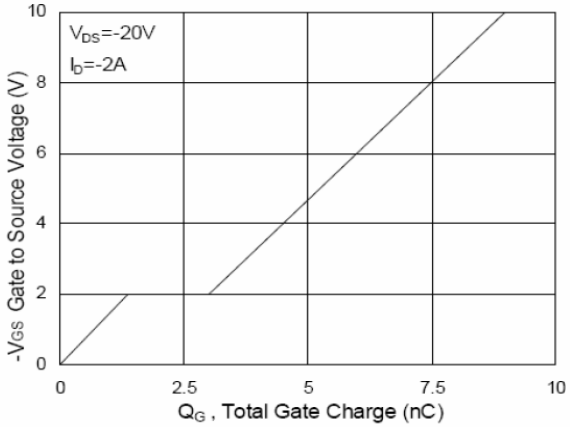


Fig.4 Gate-Charge Characteristics

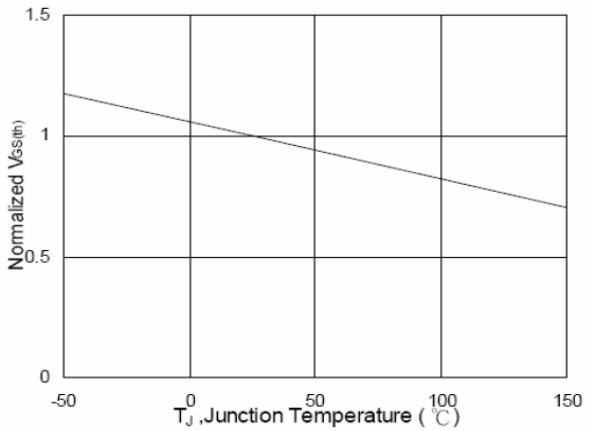


Fig.5 Normalized $V_{GS(th)}$ v.s T_J

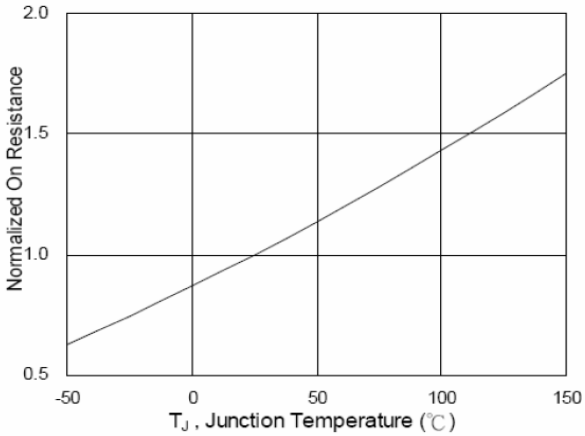


Fig.6 Normalized R_{DSON} v.s T_J

CHARACTERISTIC CURVES

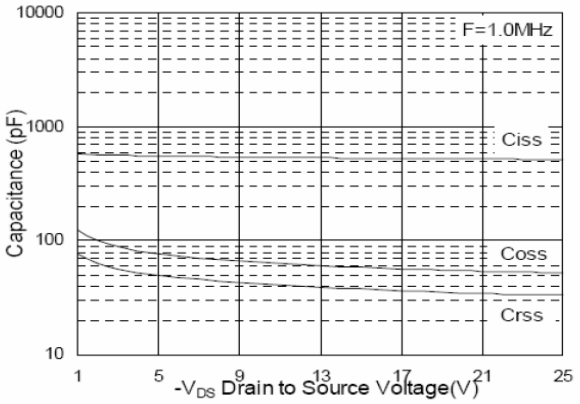


Fig.7 Capacitance

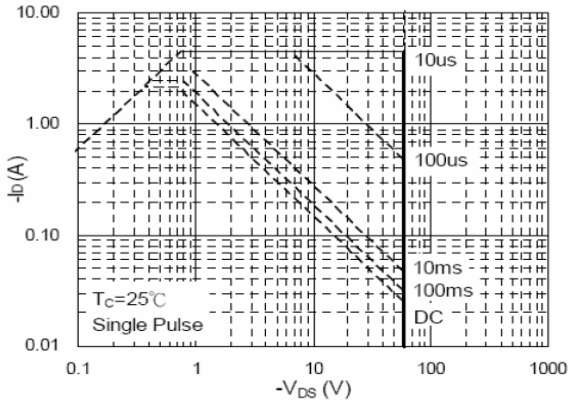


Fig.8 Safe Operating Area

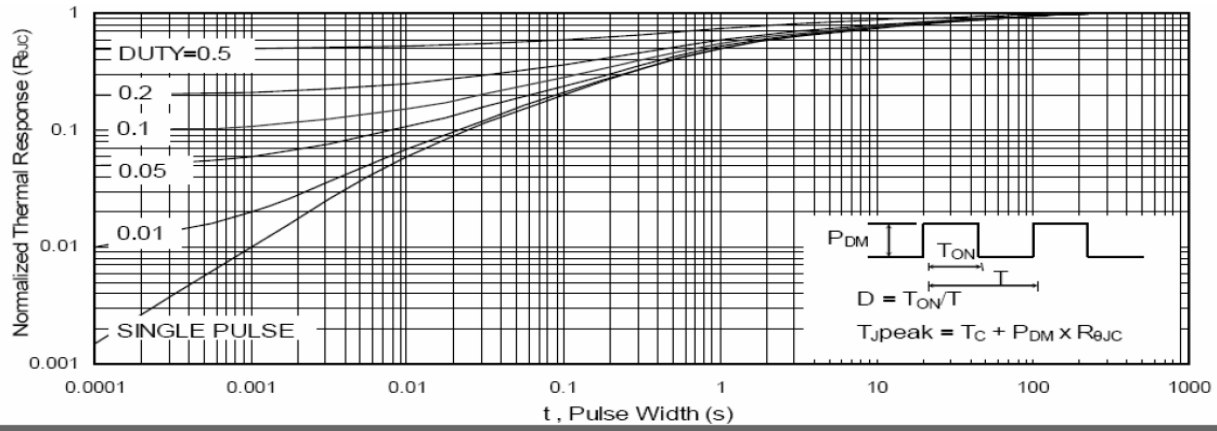


Fig.9 Normalized Maximum Transient Thermal Impedance

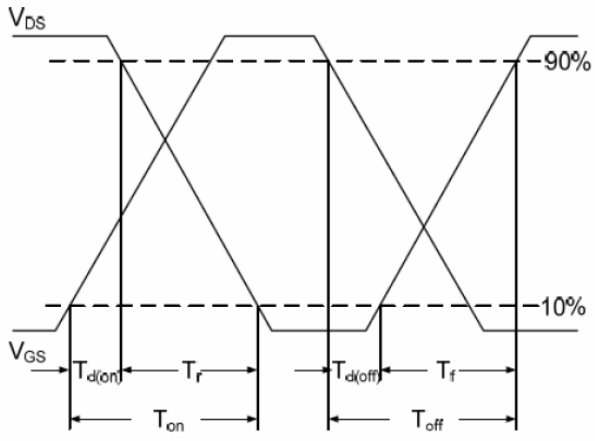


Fig.10 Switching Time Waveform

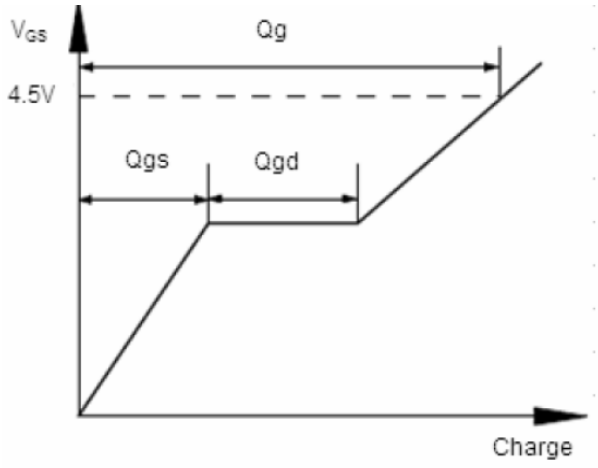


Fig.11 Gate Charge Waveform