Elektronische Bauelemente

SSM2625

0.9A , 250V , $R_{DS(ON)}$ 1.7 Ω
N-Channel Enhancement Mode Power MOSFET

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

DESCRIPTION

The SSM2625 provide the designer with the best combination of fast switching, ruggedized device design, low on-resistance and cost-effectiveness. The SOT-223 package is universally preferred for all commercial-industrial surface mount applications and suited for low voltage applications such as DC/DC converters.

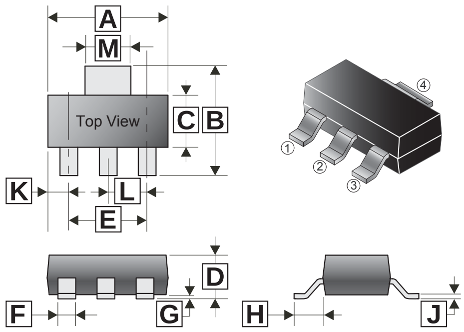
FEATURES

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

MARKING

2625
□□□□ ◄ □ = Date code

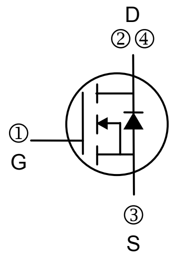
SOT-223



REF.	Millimeter Min.	Millimeter Max.	REF.	Millimeter Min.	Millimeter Max.
A	5.90	6.70	G	-	0.18
B	6.70	7.30	H	2.00 REF.	
C	3.30	3.80	J	0.20	0.40
D	1.42	1.90	K	1.10 REF.	
E	4.45	4.75	L	2.30 REF.	
F	0.60	0.85	M	2.80	3.20

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-223	2.5K	13 inch



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

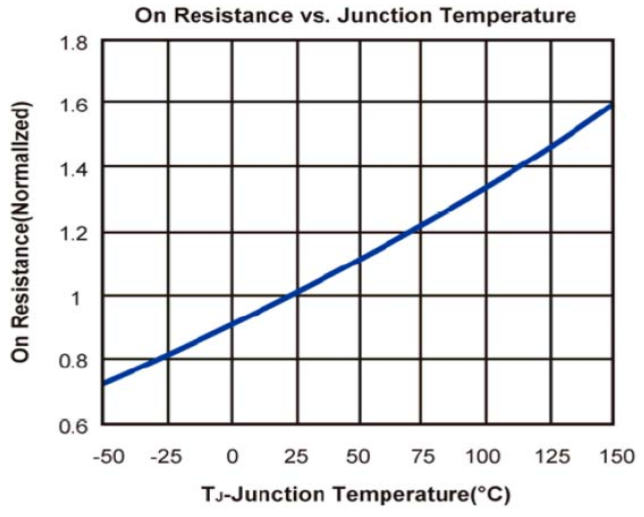
Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	250	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current [1]@V_{GS}=10V	T_A=25°C	I_D	0.9	A
	T_A=70°C		0.7	A
Pulsed Drain Current [2]		I_{DM}	3.6	A
Power Dissipation [3]	T_A=25°C	P_D	2.2	W
Operating Junction & Storage Temperature		T_J, T_{STG}	-65~150	°C
Thermal Resistance Rating				
Thermal Resistance Junction-Ambient[1](Max).		$R_{θJA}$	57	°C / W

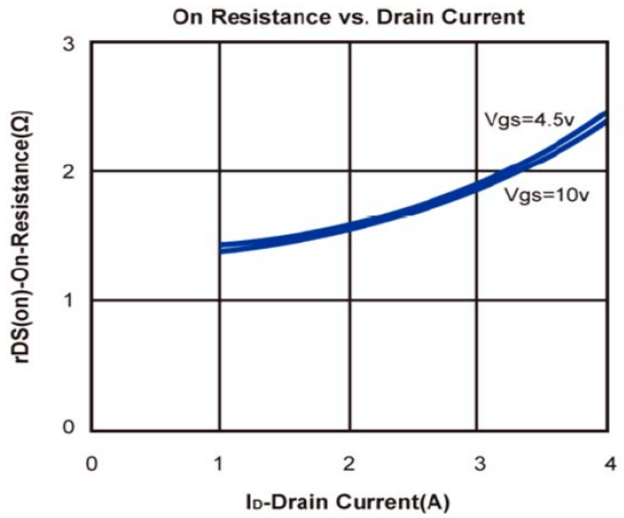
ELECTRICAL CHARACTERISTICS (T_J = 25°C unless otherwise specified)

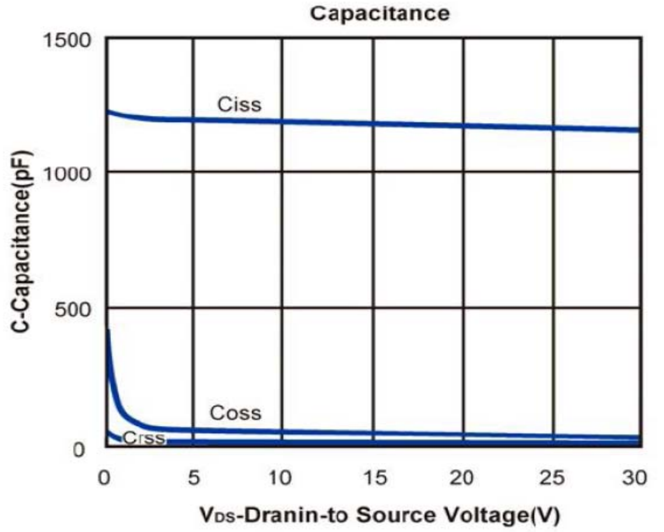
Parameter	Symbol	Min.	Typ.	Max.	Unit	Teat Conditions
Static						
Drain-Source Breakdown Voltage	BV_{DSS}	250	-	-	V	V_{GS}=0, I_D= 250μA
Gate-Threshold Voltage	$V_{GS(th)}$	1.5	-	3.5	V	V_{DS}=V_{GS}, I_D=250μA
Gate-Source Leakage Current	I_{GSS}	-	-	±100	nA	V_{GS}= ±20V
Drain-Source Leakage Current	I_{DSS}	-	-	1	μA	V_{DS}=250V, V_{GS}=0
Static Drain-Source On-Resistance [2]	$R_{DS(ON)}$	-	1.4	1.7	Ω	V_{GS}=10V, I_D=0.9A
		-	1.45	1.9		V_{GS}=4.5V, I_D=0.9A
Diode Forward Voltage [2]	V_{SD}	-	0.8	1.2	V	I_S=0.9A, V_{GS}=0, T_J=25°C
Total Gate Charge	Q_g	-	30	-	nC	I_D=1.5A, V_{DS}=200V V_{GS}=10V
Total Gate Charge	Q_g	-	17	-	nC	I_D=1.5A V_{DS}=200V V_{GS}=4.5V
Gate-Source Charge	Q_{gs}	-	3	-		
Gate-Drain (“Miller”) Change	Q_{gd}	-	12	-		
Turn-on Delay Time [2]	$T_{d(on)}$	-	19	-	nS	V_{DD}=125V V_{GS}=10V R_G=6Ω R_L=125Ω
Rise Time	T_r	-	4	-		
Turn-off Delay Time	$T_{d(off)}$	-	48	-		
Fall Time	T_f	-	13	-		
Input Capacitance	C_{iss}	-	1170	-	pF	V_{GS} =0 V_{DS}=15V f =1.0MHz
Output Capacitance	C_{oss}	-	36	-		
Reverse Transfer Capacitance	C_{rss}	-	10	-		

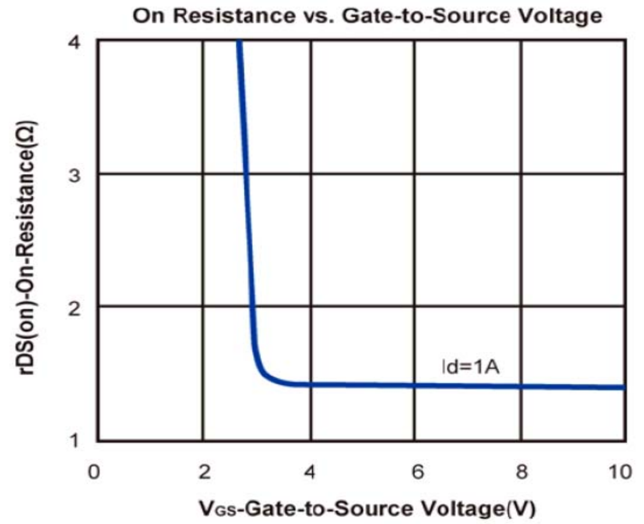
Note:
1. The data tested by surface mounted on a 1 inch2 FR-4 board with 2_{OZ} copper.
2. The data tested by pulsed , pulse width ≦ 300μs , duty cycle ≦ 2%
3. The power dissipation is limited by 150°C, junction temperature.
4. The data is theoretically the same as I_D and I_{DM} , in real applications , should be limited by total power dissipation.

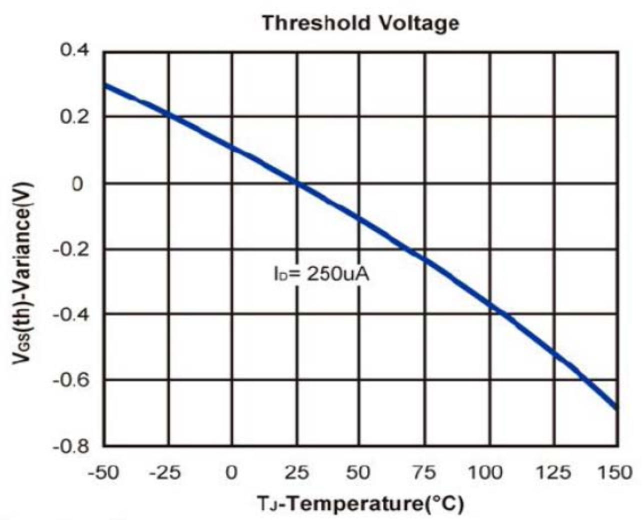
CHARACTERISTIC CURVES

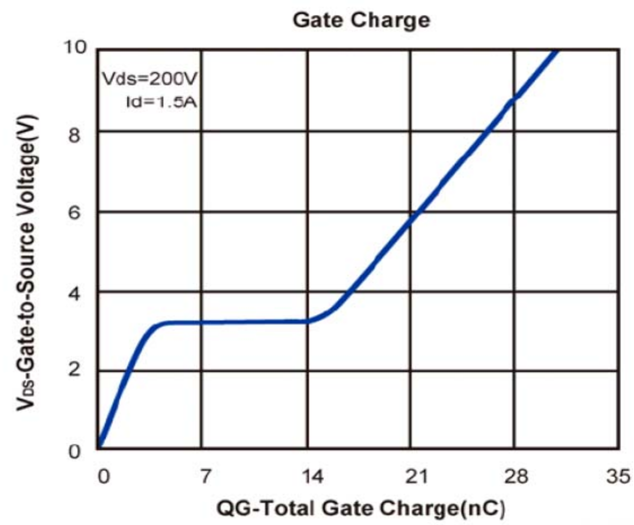






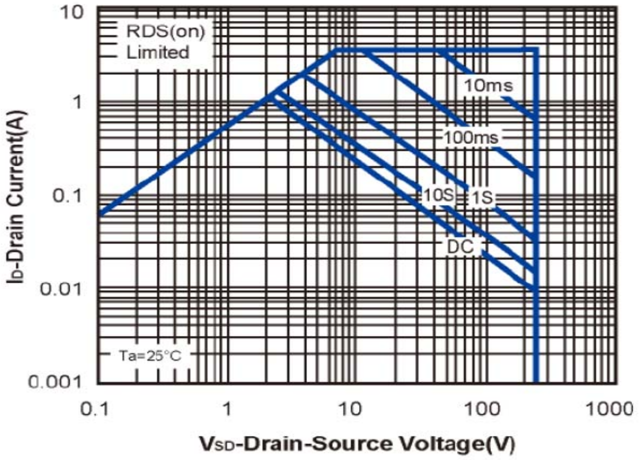




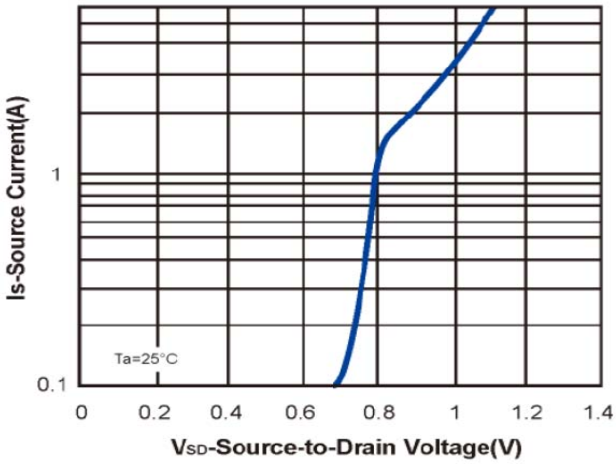


CHARACTERISTIC CURVES

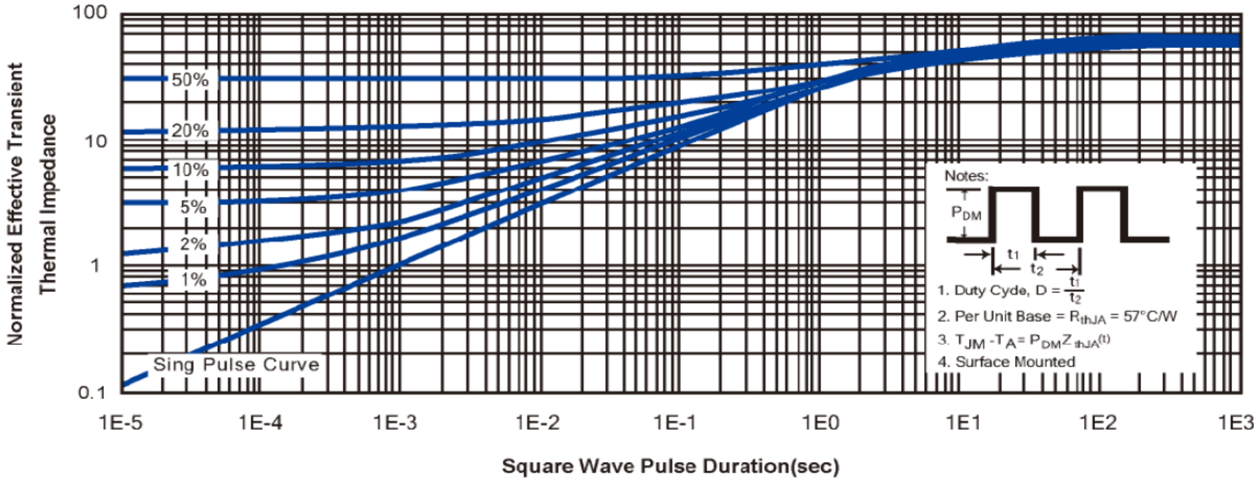
Maximum Forward Biased Safe Operating Area

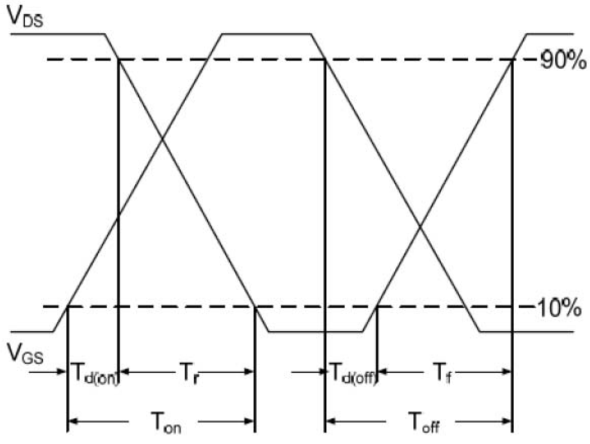


Body-diode characteristics

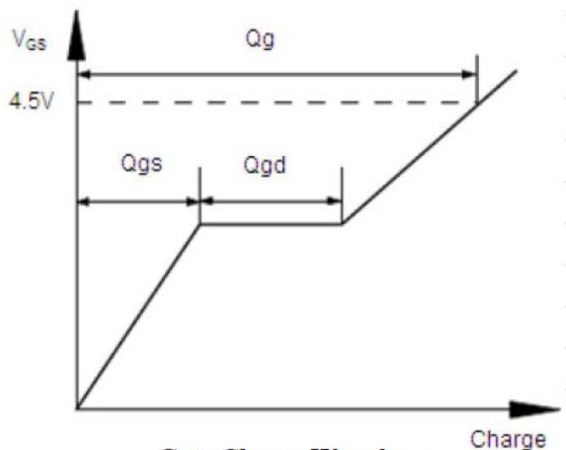


Normalized Thermal Transient Impedance, Junction-to-Ambient





Switching Time Waveform



Gate Charge Waveform