

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

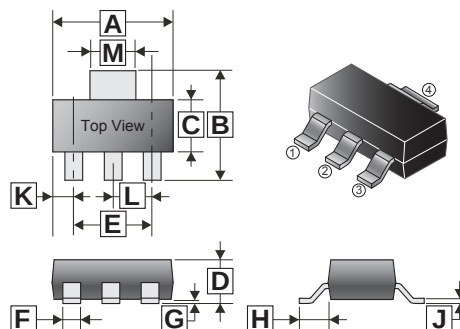
MARKING



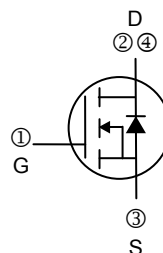
PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-223	2.5K	13 inch

SOT-223



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	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



ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ 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

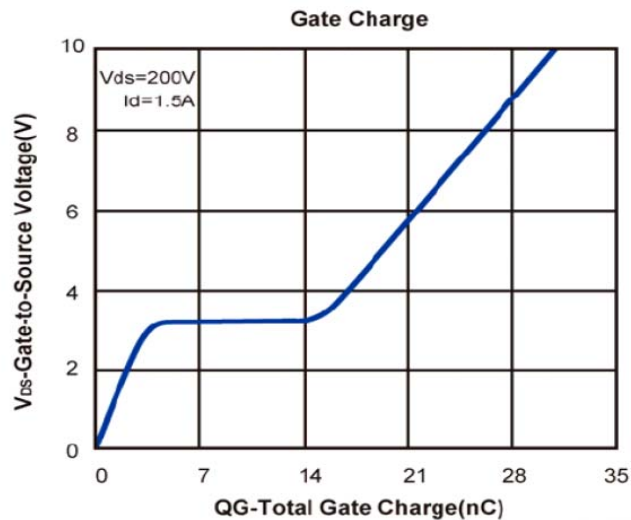
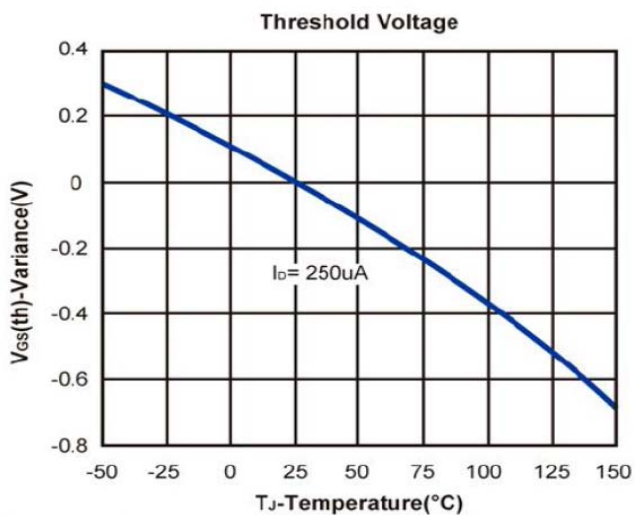
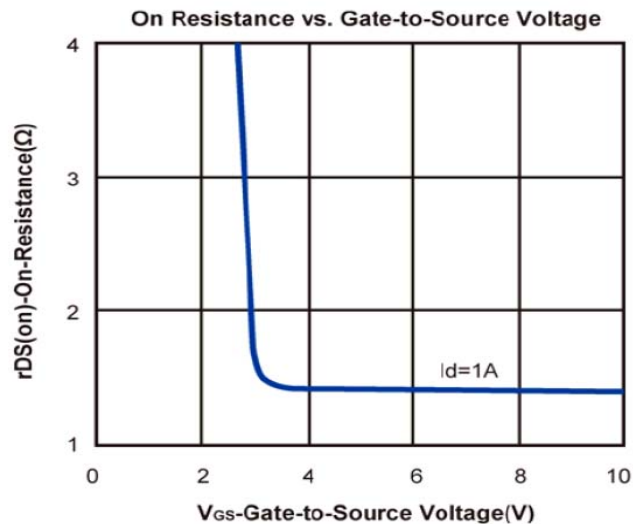
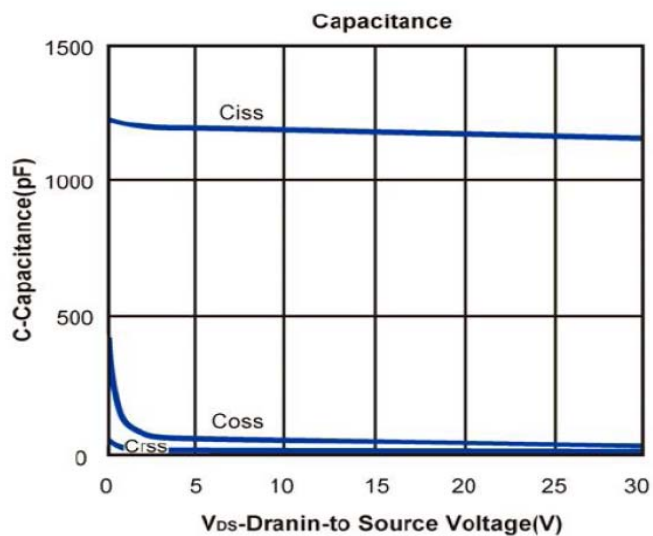
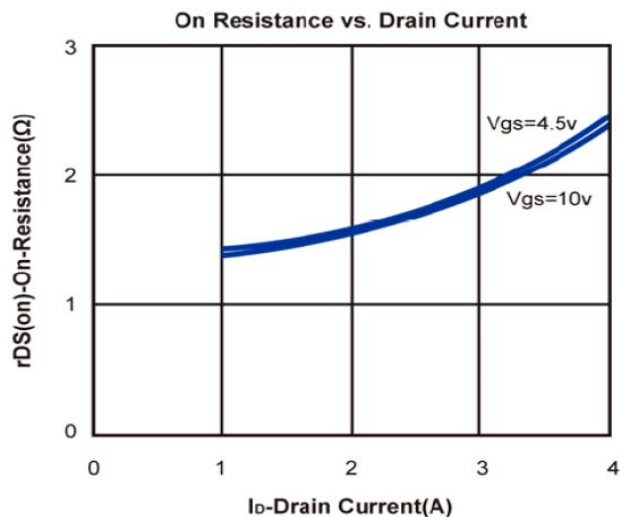
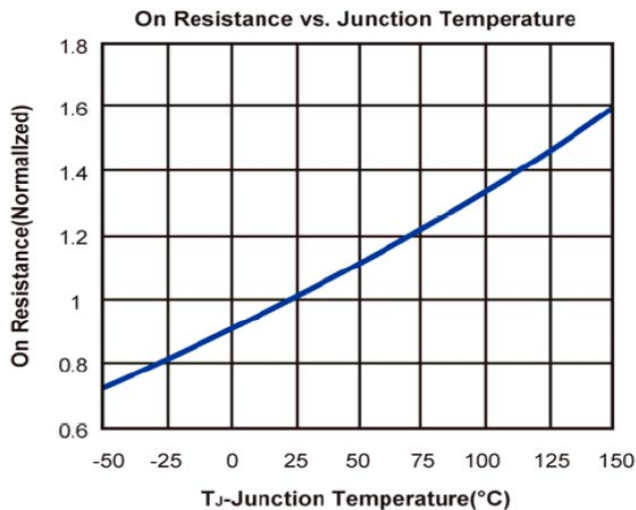
ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Static						
Drain-Source Breakdown Voltage	BV_{DSS}	250	-	-	V	$V_{GS}=0, I_D=250\mu\text{A}$
Gate-Threshold Voltage	$V_{GS(th)}$	1.5	-	3.5	V	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$
Gate-Source Leakage Current	I_{GSS}	-	-	± 100	nA	$V_{GS}= \pm 20\text{V}$
Drain-Source Leakage Current	I_{DSS}	-	-	1	μA	$V_{DS}=250\text{V}, V_{GS}=0$
Static Drain-Source On-Resistance ²	$R_{DS(ON)}$	-	1.4	1.7	Ω	$V_{GS}=10\text{V}, I_D=0.9\text{A}$
		-	1.45	1.9		$V_{GS}=4.5\text{V}, I_D=0.9\text{A}$
Diode Forward Voltage ²	V_{SD}	-	0.8	1.2	V	$I_S=0.9\text{A}, V_{GS}=0, T_J=25^\circ\text{C}$
Total Gate Charge	Q_g	-	30	-	nC	$I_D=1.5\text{A}, V_{DS}=200\text{V}$ $V_{GS}=10\text{V}$
Total Gate Charge	Q_g	-	17	-	nC	$I_D=1.5\text{A}$ $V_{DS}=200\text{V}$ $V_{GS}=4.5\text{V}$
Gate-Source Charge	Q_{gs}	-	3	-		
Gate-Drain ("Miller") Charge	Q_{gd}	-	12	-		
Turn-on Delay Time ²	$T_{d(on)}$	-	19	-	nS	$V_{DD}=125\text{V}$ $V_{GS}=10\text{V}$ $R_G=6\Omega$ $R_L=125\Omega$
Rise Time	T_r	-	4	-		
Turn-off Delay Time	$T_{d(off)}$	-	48	-		
Fall Time	T_f	-	13	-		
Input Capacitance	C_{iss}	-	1170	-	pF	$V_{GS}=0$ $V_{DS}=15\text{V}$ $f=1.0\text{MHz}$
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 $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$
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

