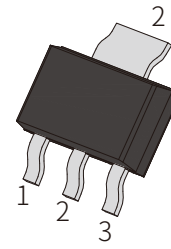
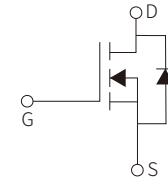


FEATURES

- | High density cell design for low RDS(ON)
- | Voltage controlled small signal switch
- | Rugged and reliable
- | High saturation current capability
- | Load Switch for Portable Devices
- | DC/DC Converter



SOT-223



Schematic Symbol

MECHANICAL DATA

- | SOT-223 Small Outline Plastic Package
- | Epoxy UL: 94V-0
- | Mounting Position: Any

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	100	V
Continuous Drain Current (note 1)	I_D	7	A
Drain Current-Pulsed (note 1)	I_{DM}	28	A
Gate-Source Voltage	V_{GS}	± 20	V
Power Dissipation (note 5)	P_D	450	mW
Thermal Resistance From Junction to Ambient (note 5)	$R_{\theta JA}$	300	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-50 to 150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS (T_a=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Off characteristics						
Drain-source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	100			V
Zero Gate Voltage Drain current	I _{DSS}	V _{DS} =80V, V _{GS} =0V			1	μA
Gate-body Leakage	I _{GSS}	V _{GS} =±20V, V _{DS} =0V			±100	nA
On characteristics (note 3)						
Gate-Threshold voltage*	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	1.2		3.0	V
Drain Source ON Resistance	R _{DS(on)}	V _{GS} =10V, I _D =7A			85	mΩ
		V _{GS} =4.5V, I _D =5A			120	mΩ
Forward trans conductance	g _{fs}	V _{DS} =5V, I _D =7A		22		S
Dynamic characteristics (note 3,4)						
Input Capacitance	C _{iss}	V _{DS} =15V, V _{GS} =0V, f=1.0MHz			4960	pF
Output Capacitance	C _{oss}				300	pF
Reverse Transfer Capacitance	C _{rss}				268	pF
Gate resistance	R _g	V _{DS} =0V, V _{GS} =0V, f=1MHz		2.6		Ω
Turn-On Delay Time	t _{d(on)}	V _{DS} =10V, V _{GS} =50V R _L =6.7Ω, R _{GEN} =3.3Ω I _D =7A		11.4		ns
Turn-On Rise Time	t _r			27.2		ns
Turn-Off Delay Time	t _{d(off)}			34.7		ns
Turn-Off Fall Time	t _f			16.6		ns
Drain-source diode characteristics and maximum ratings (note 3,)						
Diode forward voltage	V _{SD}	I _S =1A, V _{GS} =0V			1.2	V

Notes:

1. T_c=25°C Limited only by maximum temperature allowed.
2. P_w≤10us, Duty cycle≤1%.
3. Pulse Test: Pulse Width≤300us, duty cycle≤2%.
4. Guaranteed by design, not subject to production.
5. The value of R_{θJA} is measured with the device mounted on 1 in 2 fr-4 board with 2oz. Copper, in a still air environment with T_a=25°C, t≤10sec

PARAMETER CHARACTERISTIC CURVE

Fig 1: Output Characteristics

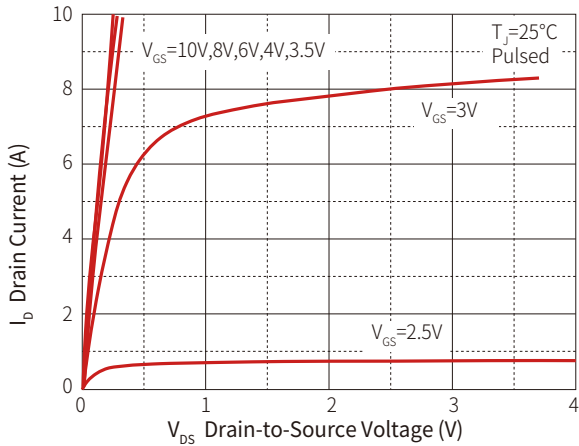


Figure 2: Transfer Characteristics

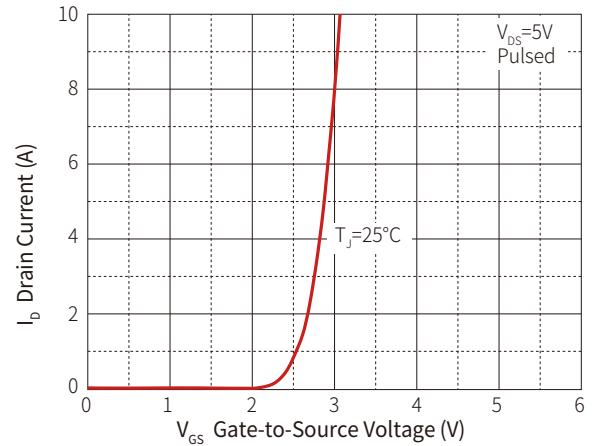


Figure 3: I_S — V_{SD}

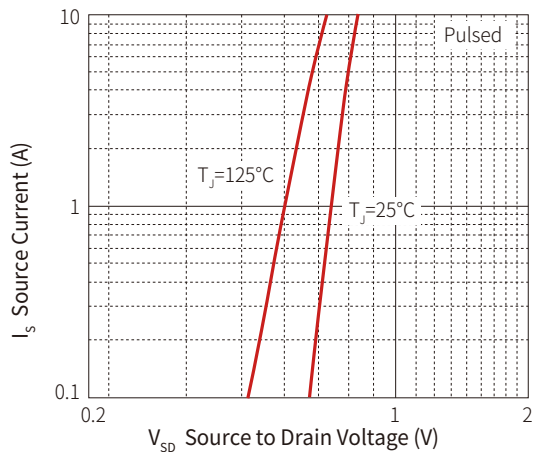


Figure 4: Threshold Voltage

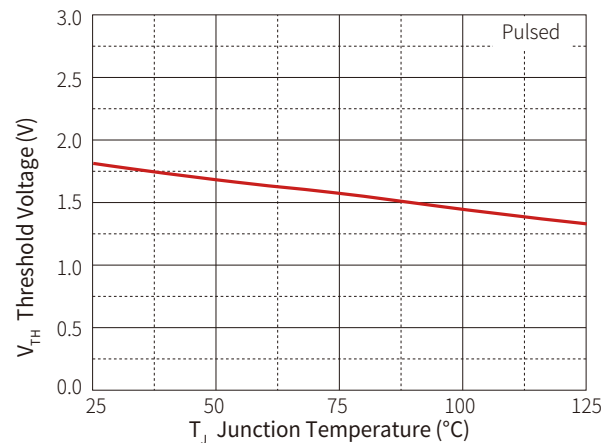


Figure 5: Capacitances

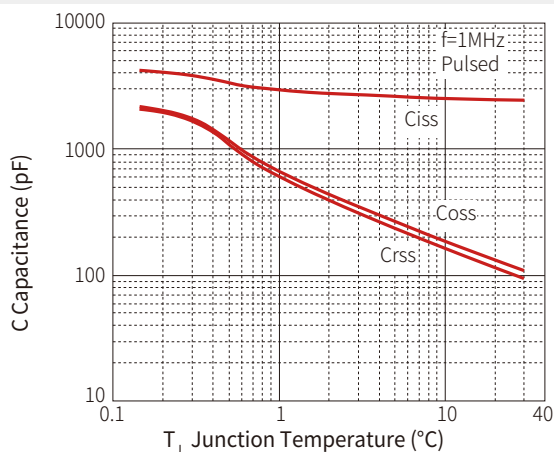
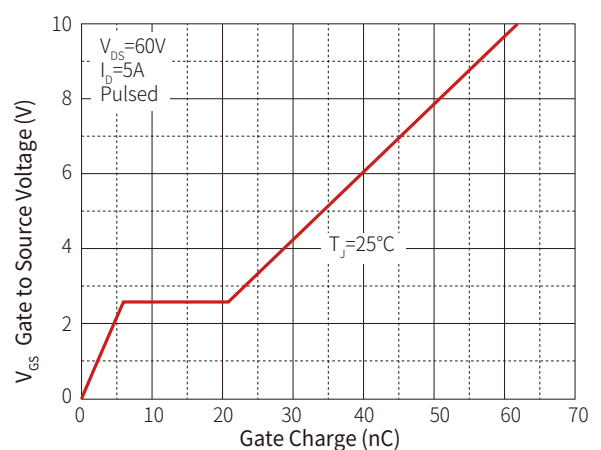
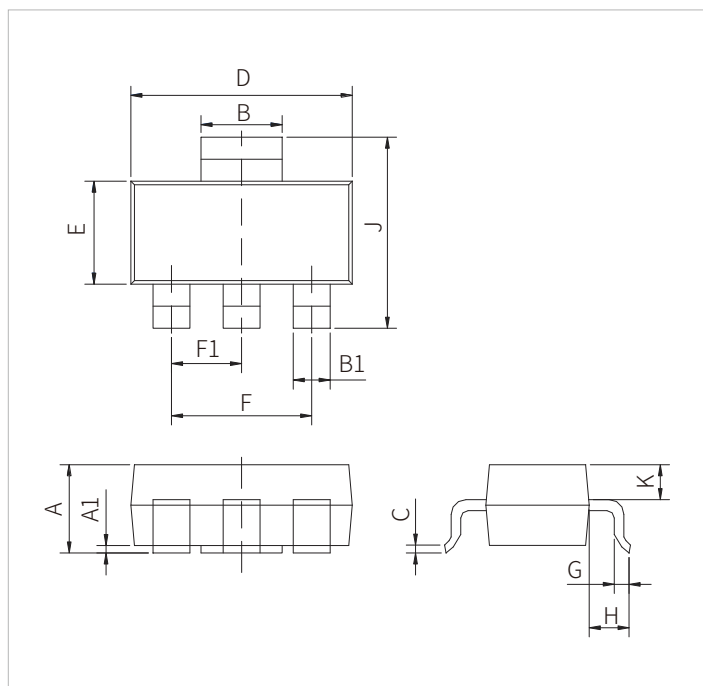


Figure 6: Gate Charge



SOT-223 PACKAGE DIMENSIONS



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.50		1.80	0.059		0.071
A1	0.01		0.06	0.001		0.002
B	2.90		3.10	0.114		0.122
B1	0.60		0.80	0.024		0.031
C	0.22		0.32	0.009		0.013
D	6.30		6.70	0.248		0.264
E	3.30		3.70	0.130		0.146
F		4.60			0.181	
F1		2.30			0.091	
G	0.70		1.10	0.028		0.043
H	1.50		2.00	0.059		0.079
J	6.70		7.30	0.264		0.287
K		0.90			0.035	

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SNM7N10V	SOT-223	3000PCS	7"

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By QR Code

Website



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