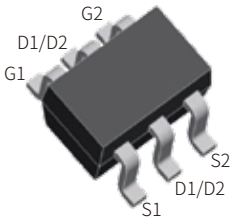
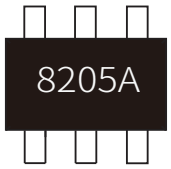
FEATURES

- V_{DS}(min) =19.5 V,I_D(max) =5.8A
- Low on state resistance $R_{DS(on)}$ = 22mΩ TYP.(V_{GS} = 4.5V)
  $R_{DS(on)}$ = 25mΩ TYP. (V_{GS} = 2.5V)
- Lead free product is acquired
- Surface Mount Package



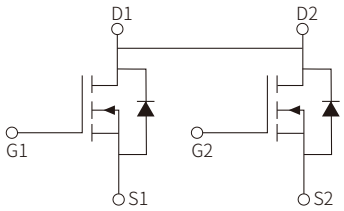
SOT-23-6L



Marking

APPLICATION

- Battery pr otection
- Battery Powered Systems
- Power Management in Notebook Computer
- Portable Equipment



Schematic Symbol

APPROVALS

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

ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	19.5	V
Continuous Drain Current T_C=25°C	I_D	5.8	A
Pulsed Drain Current	I_{DM}	24	A
Gate Source Voltage	V_{GSS}	±12	V
Thermal Resistance $R_{\theta JA}$=100°C/W)	$R_{\theta JA}$	1.32	°C/W
Operating Junction Temperature Range	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V,I_{DS}=250μA	19.5			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS},I_D=250μA	0.55	0.7	0.95	V
Drain Cut-Off Current	I_{DSS}	V_{DS}=19.5V,V_{GS}=0V			1	μA
Gate Leakage Current	I_{GSS}	V_{GS}=±12V ,V_{DS}=0V			±100	nA
Drain Source ON Resistance	$R_{DS(on)}$	V_{GS}=4.5V,I_D=3A		22	25	mΩ
		V_{GS}=2.5V,I_D=2A		25	32	mΩ
Dynamic Characteristics(2)						
Total Gate Charge	Q_g	V_{DS}=10V,V_{GS}=4.5V,I_D=4A		6.1		nC
Gate-Source Charge	Q_{gs}			0.9		nC
Gate-Drain Charge	Q_{gd}			1.8		nC
Input capacitance	C_{iss}	V_{GS}=0V,V_{DS}=10V, f=1.0MHz		465		pF
Output capacitance	C_{oss}			99		pF
Reverse transfer capacitance	C_{rss}			76		pF
Turn-on Delay Time	$t_{d(on)}$	V_{DD}=10V,V_{GS}=4.5V I_D=1A,R_{GEN}=10Ω		8		ns
Turn-on Rise Time	t_r			17		ns
Turn-Off Delay Time	$t_{d(off)}$			19		ns
Turn-Off Fall Time	t_f			12		ns
Drain Source Body Diode Characteristics						
Source Drain Diode Forward Voltage(1)	V_{SD}	I_S=2.8A,V_{GS}=0V		0.7	1.2	V
Diode forw ard current(3)	I_S				4.5	A

Note :
1.Pulse Test: pulse width 300 μ s, duty cycle 2%.
2.Guaranteed by design, not subject to production.
3.Surface mounted on FR4 board, t 10sec.

PARAMETER CHARACTERISTIC CURVE

Fig 1: Output Characteristics

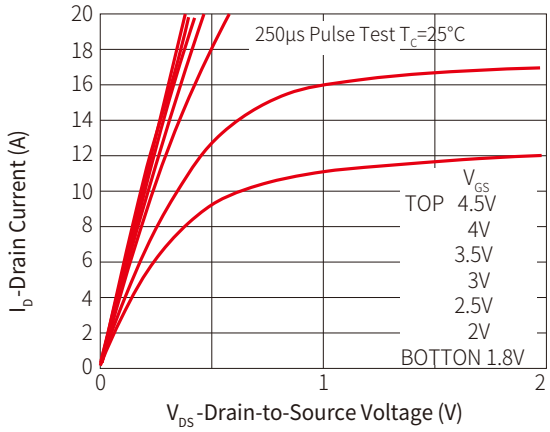


Figure 2: Transfer Characteristics

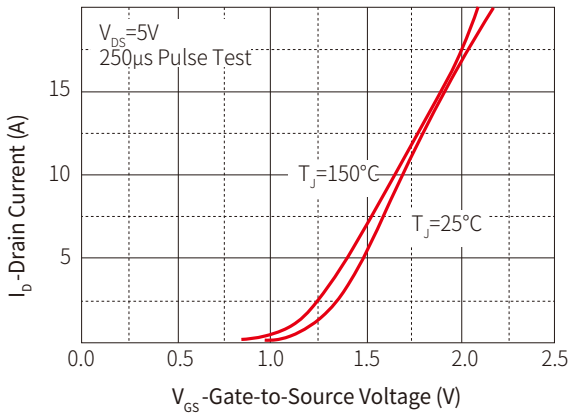


Figure 3: Threshold Voltage VS. Temperature

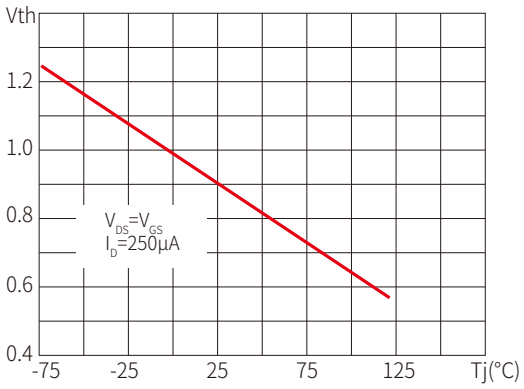


Figure 4: BVdss VS. Temperature

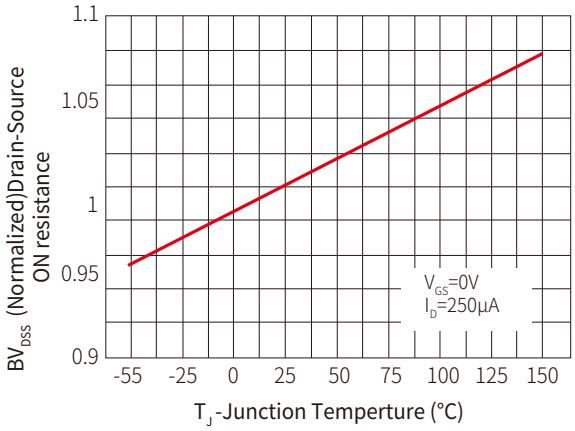


Figure 5: Rds(ON) VS. Temperature

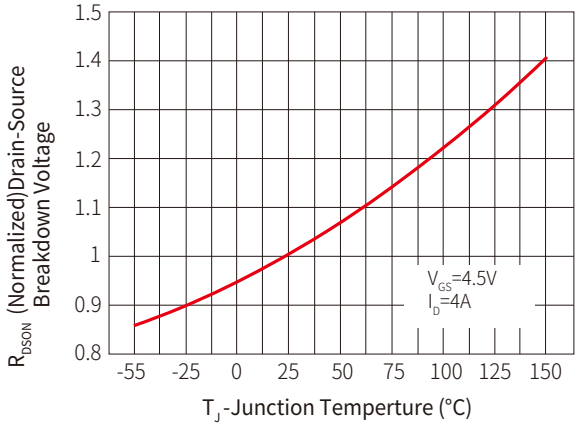


Figure 6: Source to Drain VS. Temperature

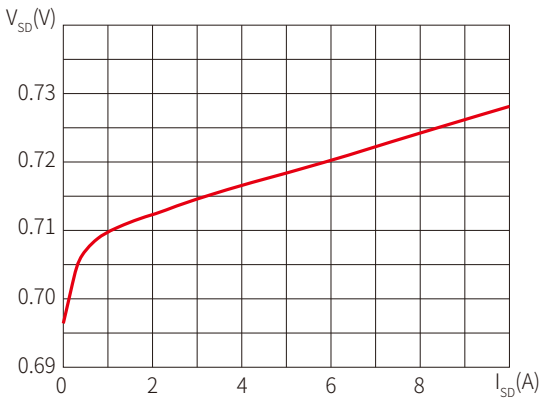


Figure 7: Safe Operating Area

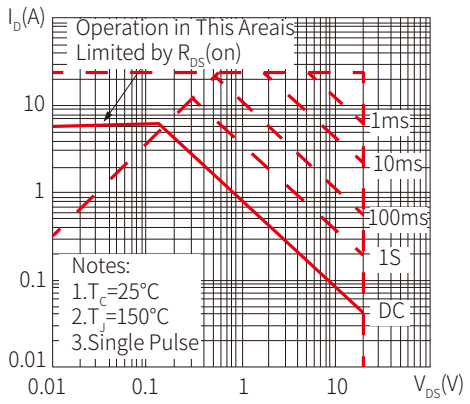


Figure 8: Maximum Drain Current VS. Case Temperature

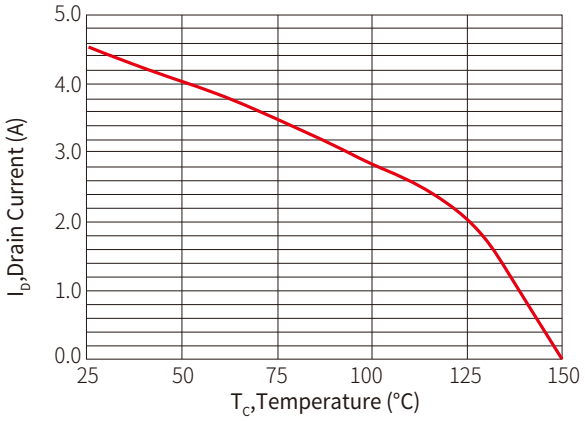
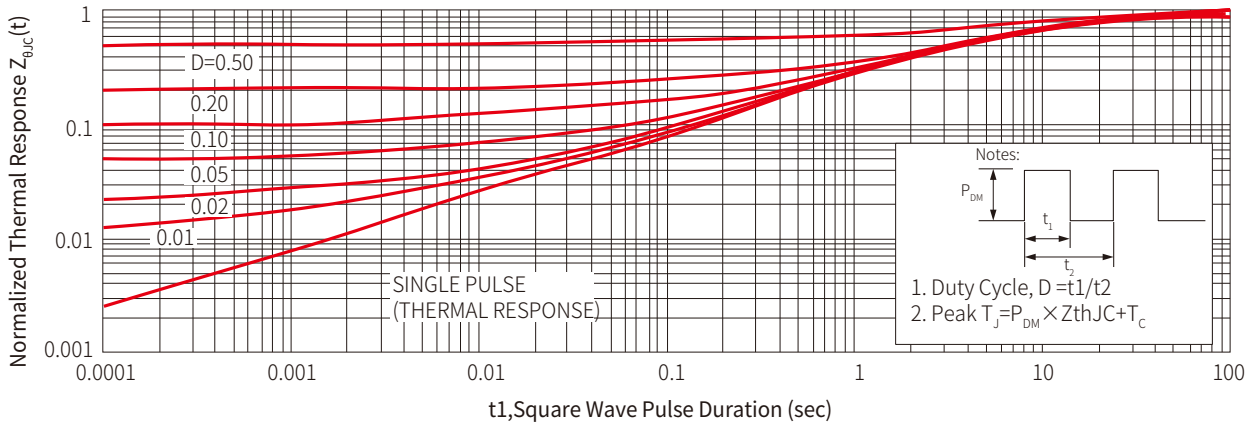
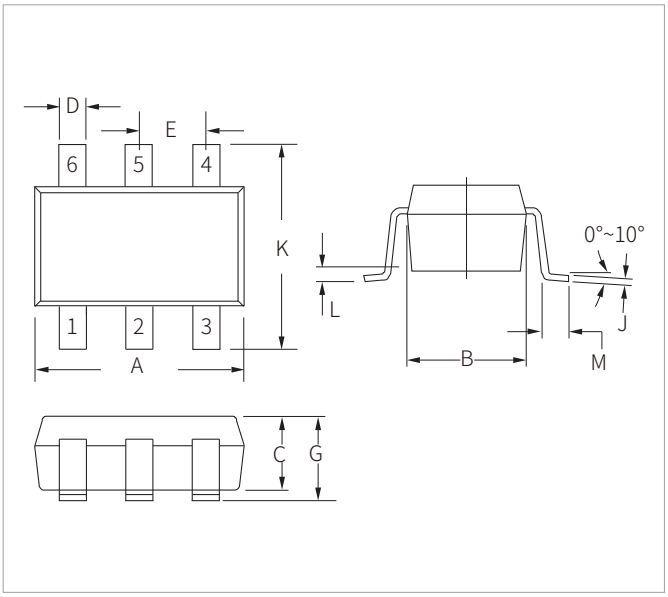


Figure 9: Normalized Thermal Transient Impedance

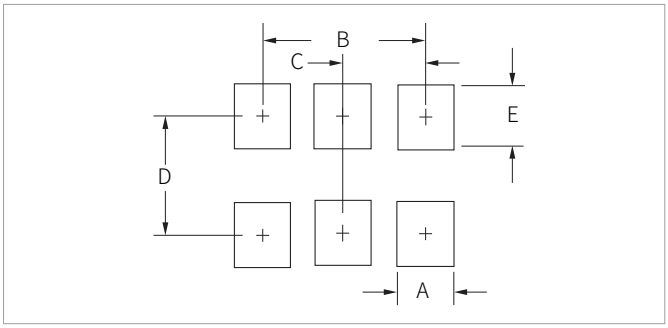


SOT-23-6L PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.10	0.110	0.125
B	1.50	1.80	0.059	0.071
C	0.90	1.30	0.036	0.051
D	0.25	0.50	0.010	0.020
E	0.85	1.05	0.033	0.040
G	0.90	1.45	0.036	0.057
J	0.09	0.20	0.003	0.008
K	2.60	3.00	0.102	0.118
L	0.0	0.15	0.0	0.006
M	0.30	0.60	0.012	0.024

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
	Nominal	Nominal
A	0.70	0.028
B	1.90	0.074
C	0.95	0.037
D	2.40	0.094
E	1.00	0.039

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SNM8205AS	SOT-23-6L	3000PCS	7”

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