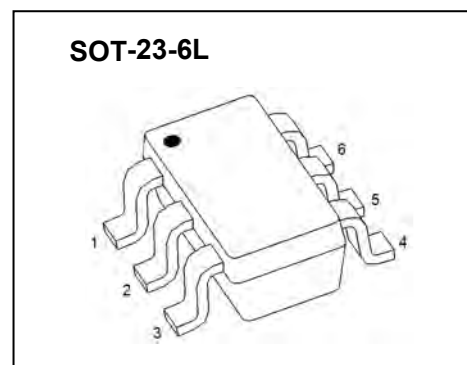


SOT-23-6L Plastic-Encapsulate MOSFETS

BC8205 Dual N-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
19 V	25mΩ@4.5V	6A
	32mΩ@2.5V	



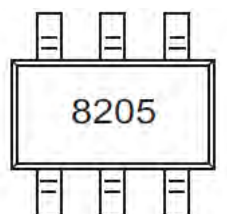
FEATURE

- TrenchFET Power MOSFET
- Excellent $R_{DS(on)}$
- Low Gate Charge
- High Power and Current Handling Capability
- Surface Mount Package

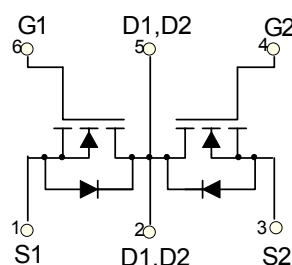
APPLICATION

- Battery Protection
- Load Switch
- Power Management

MARKING



Equivalent Circuit



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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	19	V
Gate-Source Voltage	V_{GS}	± 10	V
Continuous Drain Current	I_D	6	A
Pulsed Drain Current (note 1)	I_{DM}	25	A
Thermal Resistance from Junction to Ambient (note 2)	$R_{\theta JA}$	357	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~+150	$^{\circ}\text{C}$
Lead Temperature for Soldering Purposes(1/8" from case for 10 s)	T_L	260	$^{\circ}\text{C}$

MOSFET ELECTRICAL CHARACTERISTICS

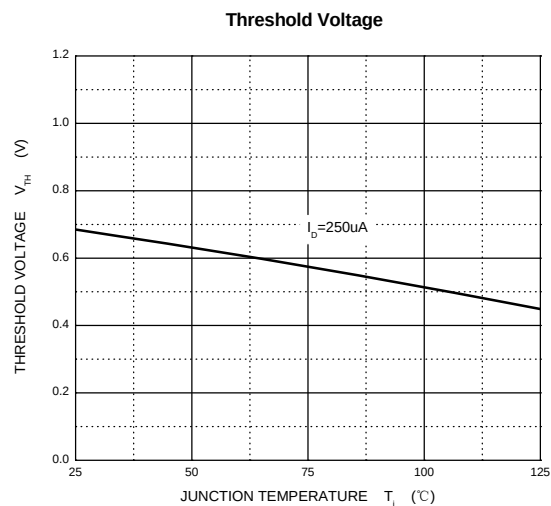
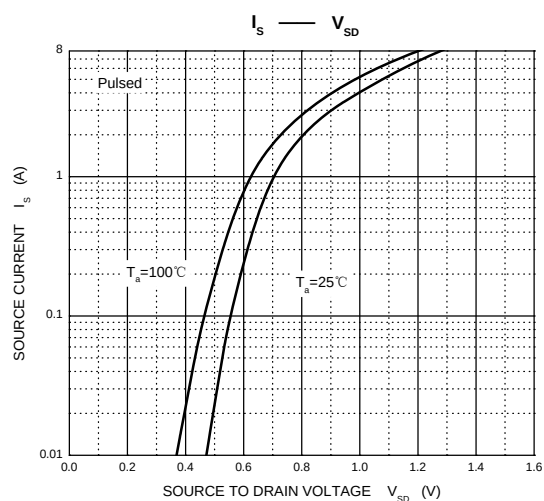
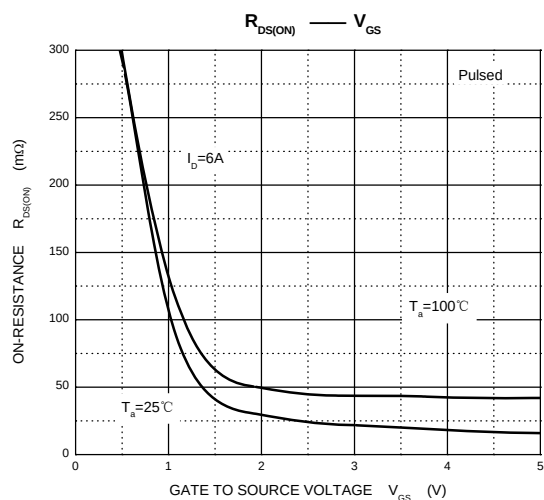
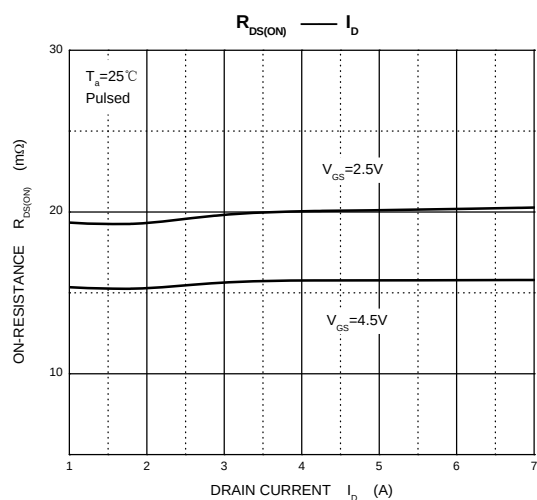
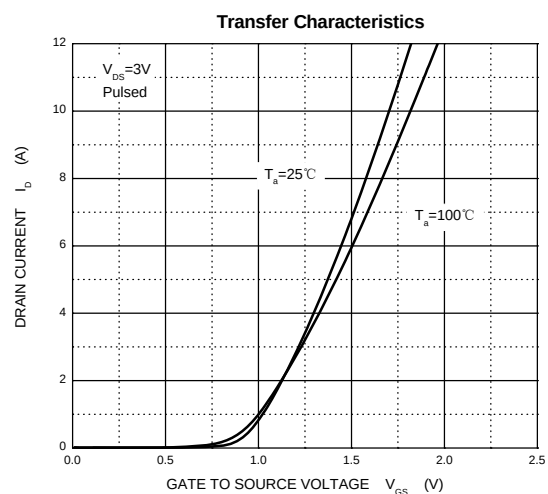
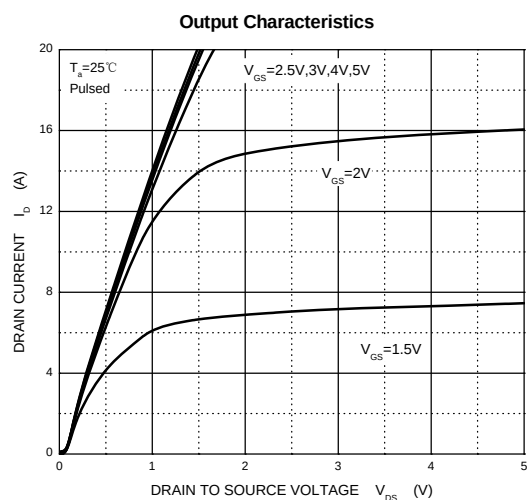
$T_a=25^{\circ}\text{C}$ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC CHARACTERICTISCS						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	19			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =18V,V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±10V, V _{DS} = 0V			±100	nA
Gate threshold voltage (note 3)	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.5		0.9	V
Drain-source on-resistance (note 3)	R _{DS(on)}	V _{GS} =4.5V, I _D =6A			25	mΩ
		V _{GS} =2.5V, I _D =5A			32	mΩ
Forward tranconductance (note 3)	g _{FS}	V _{DS} =5V, I _D =4.5A		10		S
Diode forward voltage (note 3)	V _{SD}	I _S =1.25A, V _{GS} = 0V			1.2	V
DYNAMIC CHARACTERICTISCS (note4)						
Input Capacitance	C _{iss}	V _{DS} =8V,V _{GS} =0V,f =1MHz		800		pF
Output Capacitance	C _{oss}			155		pF
Reverse Transfer Capacitance	C _{rss}			125		pF
SWITCHING CHARACTERICTISCS (note 4)						
Turn-on delay time	t _{d(on)}	V _{DD} =10V,V _{GS} =4V, I _D =1A,R _{GEN} =10Ω		18		ns
Turn-on rise time	t _r			5		ns
Turn-off delay time	t _{d(off)}			43		ns
Turn-off fall time	t _f			20		ns
Total Gate Charge	Q _g	V _{DS} =10V,V _{GS} =4.5V,I _D =4A		11		nC
Gate-Source Charge	Q _{gs}			2.3		nC
Gate-Drain Charge	Q _{gd}			2.5		nC

Notes :

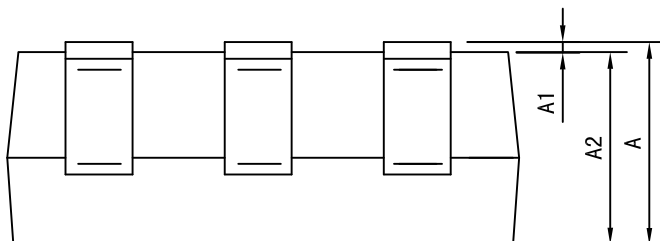
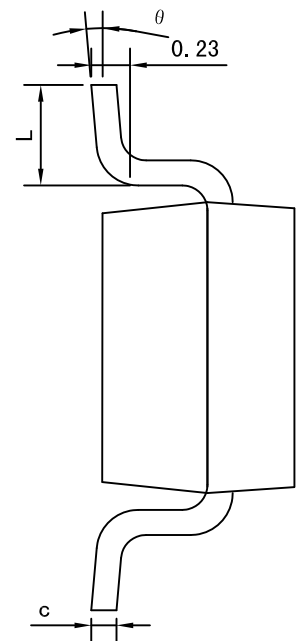
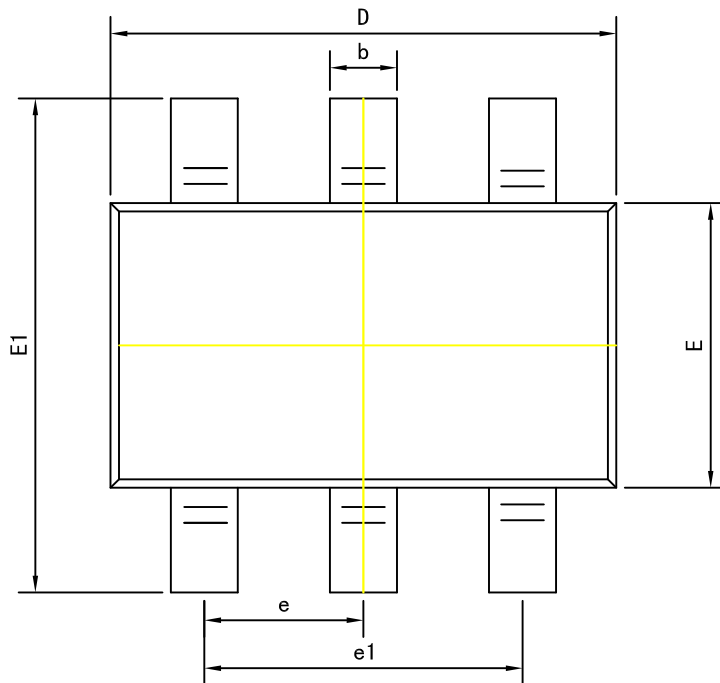
1. Repetitive rating: Pulse width limited by maximum junction temperature
2. Surface Mounted on FR4 board, $t \leq 10$ sec.
3. Pulse test : Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
4. Guaranteed by design, not subject to production.

Typical Characteristics



Package outline dimensions

SOT-23-6L



Symbol	Dimension in Millimeters	
	Min	Max
A	1.050	1.250
A1	0.000	0.100
A2	1.050	1.150
b	0.300	0.500
c	0.100	0.200
D	2.820	3.020
E	1.500	1.700
E1	2.650	2.950
e	0.950 (Basic)	
e1	1.800	2.000
L	0.300	0.600
θ	0°	8°