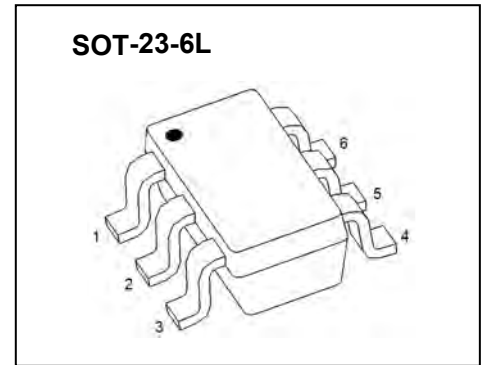


# Plastic-Encapsulate MOSFETS

## Dual N-Channel MOSFET

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



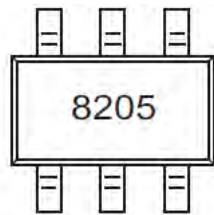
### FEATURE

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

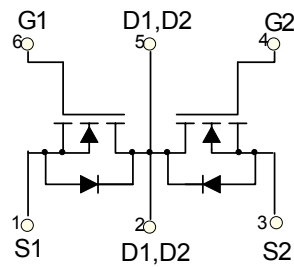
### APPLICATION

- 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	$V_{GS}$	$\pm 10$	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	$^{\circ}\text{C}/\text{W}$
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

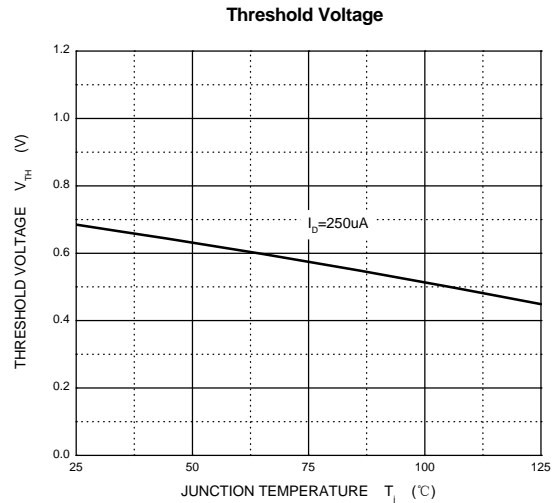
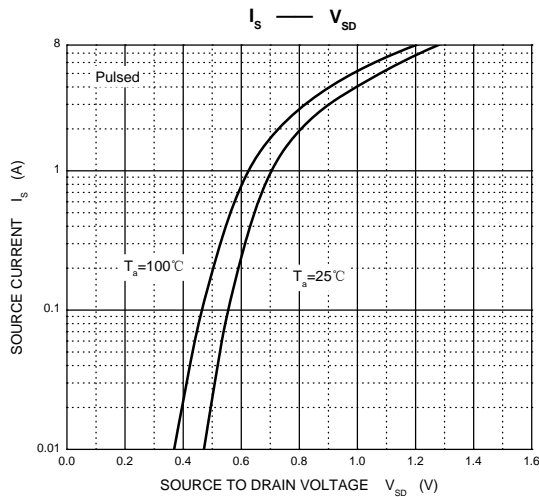
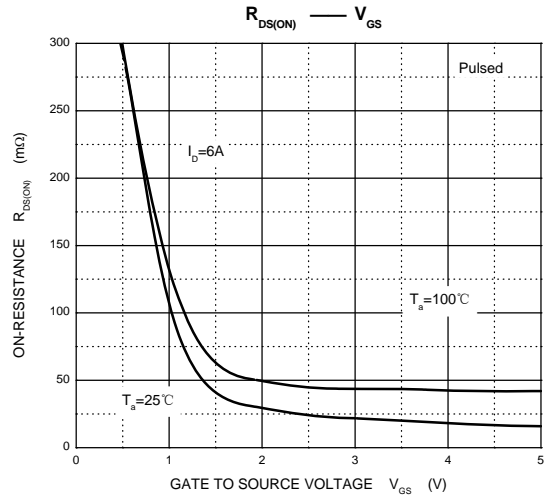
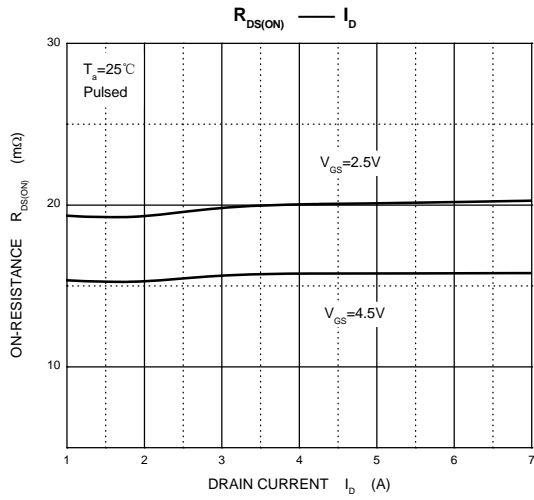
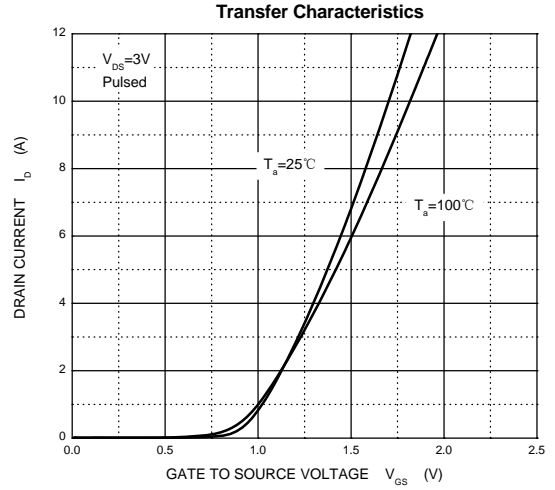
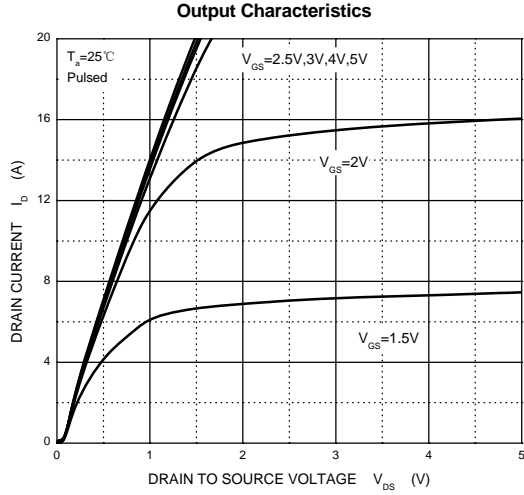
$T_a=25\text{ }^\circ\text{C}$  unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>STATIC CHARACTERISTICS</b>						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	19			V
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = 18V, V_{GS} = 0V$			1	$\mu A$
Gate-body leakage current	$I_{GSS}$	$V_{GS} = \pm 10V, V_{DS} = 0V$			$\pm 100$	nA
Gate threshold voltage (note 3)	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.5		0.9	V
Drain-source on-resistance (note 3)	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 6A$			25	$m\Omega$
		$V_{GS} = 2.5V, I_D = 5A$			32	$m\Omega$
Forward transconductance (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
<b>DYNAMIC CHARACTERISTICS (note4)</b>						
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
<b>SWITCHING CHARACTERISTICS (note 4)</b>						
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 10V, V_{GS} = 4V,$ $I_D = 1A, R_{GEN} = 10\Omega$		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



**SOT-23-6L Package Outline Dimensions**

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