

**Features**

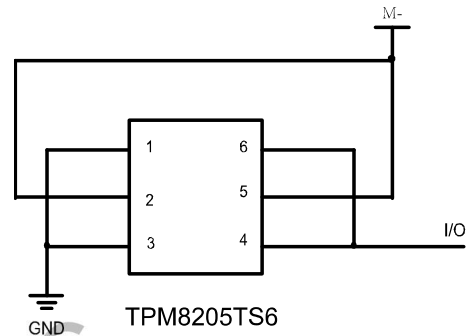
- 20, 6A  $R_{ds(on)}=20m\Omega @V_{GS}=4.5V$   
 $R_{ds(on)}=28m\Omega @V_{GS}=2.5V$
- SOT23-6 Package



**Applications**

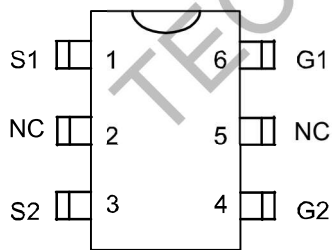
- Charge protection for lithium batteries (only used for lithium battery protector)
- D internal connection, not external use.

The circuit is not applicable as follows



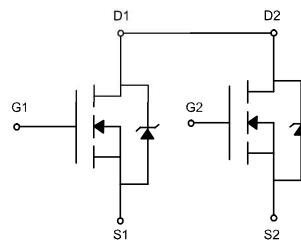
- D end elicited circuit, which can not be used
- Parallel G1/G2 do single MOS can not be used

**Dimensions and Pin Configuration**



Top View

D1/D2 Pin2 and Pin5 do not connect



Circuit diagram

Marking:8205

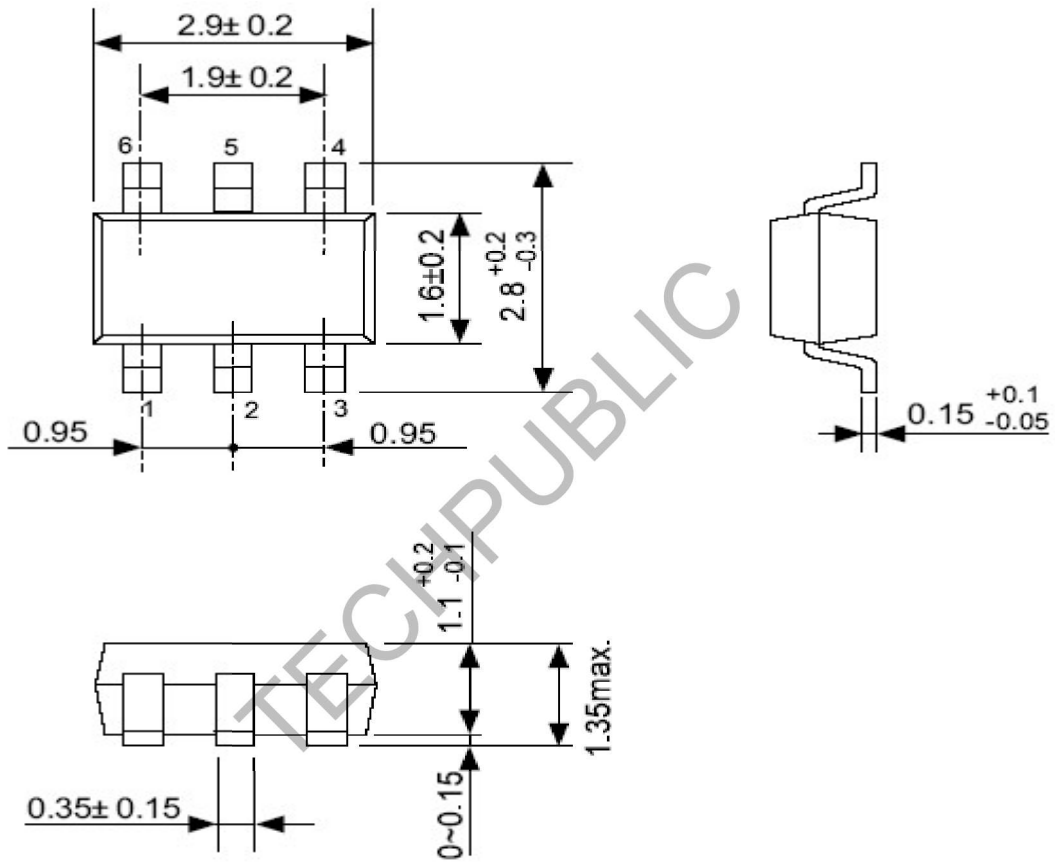
**Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V <sub>DS</sub>	20	V
Gate-Source Voltage	V <sub>GS</sub>	±8	V
Continuous Drain Current ( V <sub>GS</sub> =4.5V, @Ta=25°C )	I <sub>D</sub>	6	A
Continuous Drain Current ( V <sub>GS</sub> =4.5V, @Ta=70°C )	I <sub>D</sub>	4.8	A
Pulsed Drain Current	I <sub>DM</sub>	20	A
Power Dissipation ( t≤10s, @Ta=25°C )	P <sub>D</sub>	1.5	W
Thermal Resistance from Junction to Ambient(t≤10s)	R <sub>θJA</sub>	83	°C/W
Junction Temperature	T <sub>J</sub>	-55~ +150	°C
Storage Temperature	T <sub>STG</sub>	-55~ +150	°C

**Electrical Characteristics (  $T_A = 25^\circ\text{C}$  unless otherwise noted )**

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
<b>Static Characteristics</b>						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	20	20.3	25	V
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = 16V, V_{GS} = 0V$			1	$\mu A$
Gate-body leakage current	$I_{GSS}$	$V_{GS} = \pm 8V, V_{DS} = 0V$			$\pm 1$	$\mu A$
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.4	0.65	1.0	V
Drain-source on-resistance	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 6.0A$		40	50	m $\Omega$
		$V_{GS} = 3.8V, I_D = 3.0A$		43	55	
		$V_{GS} = 2.5V, I_D = 3.0A$		57	70	
Forward transconductance	$g_{fs}$	$V_{DS} = 5V, I_D = 4.5A$		10		S
Diode forward voltage	$V_{SD}$	$I_S = 1.0A, V_{GS} = 0V, T_j = 25^\circ\text{C}$		0.72	1.2	V
<b>Dynamic characteristics</b>						
Total gate charge	$Q_g$	$V_{DS} = 10V,$ $V_{GS} = 4.5V,$ $I_D = 6A$		8		nC
Gate-source charge	$Q_{gs}$			2.1		
Gate-drain charge	$Q_{gd}$			2.5		
Input Capacitance	$C_{iss}$	$V_{DS} = 8V, V_{GS} = 0V, f = 1\text{MHz}$		480		pF
Output Capacitance	$C_{oss}$			290		
Reverse Transfer Capacitance	$C_{rss}$			120		
<b>Switching Characteristics</b>						
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 10V,$ $V_{GS} = 4.5V,$ $I_D = 1A$ $R_G = 6\Omega$		8		ns
Turn-on rise time	$t_r$			12		
Turn-off delay time	$t_{d(off)}$			34		
Turn-off fall time	$t_f$			32		

**SOT23-6 PACKAGE INFORMATION**



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