TECH PUBLIC
台舟电子

TPM8205TS6

20V Dual N-Channel MOSFET

www.sot23.com.tw

Features

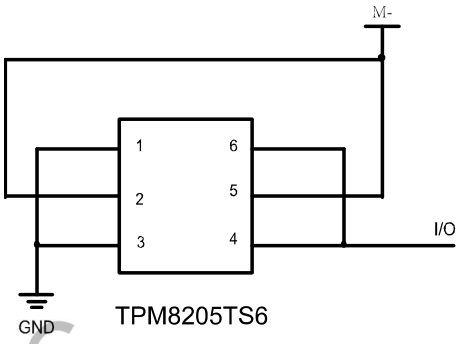
- 20, 6A Rds(on)=20mΩ@V_{GS}= 4.5V
  Rds(on)=28mΩ@V_{GS}= 2.5V
- SOT23-6 Package

RoHS

Applications

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

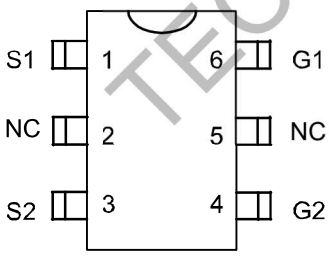
The circuit is not applicable as follows



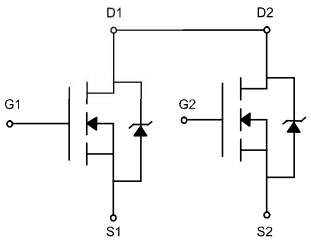
TPM8205TS6

- **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_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±8	V
Continuous Drain Current (V_{GS}=4.5V，@Ta=25°C)	I_D	6	A
Continuous Drain Current (V_{GS}=4.5V，@Ta=70°C)	I_D	4.8	A
Pulsed Drain Current	I_{DM}	20	A
Power Dissipation (t≤10s, @Ta=25°C)	P_D	1.5	W
Thermal Resistance from Junction to Ambient(t≤10s)	$R_{\theta JA}$	83	℃/W
Junction Temperature	T_J	-55~ +150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

Electrical Characteristics (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	20	20.3	25	V
Zero gate voltage drain current	I_{DSS}	V_{DS} =16V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±8V, V_{DS} = 0V			±1	μA
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.4	0.65	1.0	V
Drain-source on-resistance	$R_{DS(ON)}$	V_{GS} =4.5V, I_D = 6.0A		40	50	mΩ
		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, Tj=25°C		0.72	1.2	V
Dynamic characteristics						
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=1MHz		480		pF
Output Capacitance	C_{oss}			290		
Reverse Transfer Capacitance	C_{rss}			120		
Switching Characteristics						
Turn-on delay time	$t_{d(on)}$	V_{DD}=10V , V_{GS}=4.5V , I_D=1A R_G=6Ω		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