Description

This is 20V 6A Double N-Channel MOSFET in a SOT23-6 plastic package.

Applications

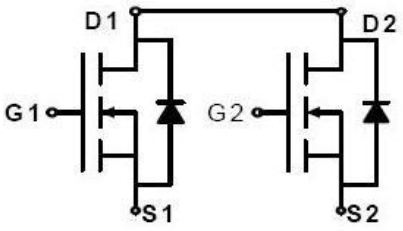
Use as a battery protection , switching application.

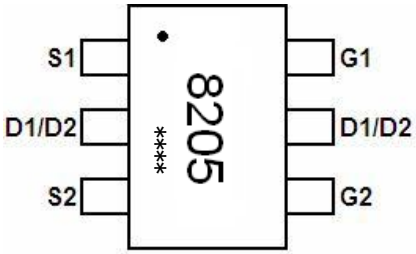
Features

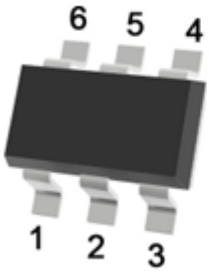
- Advanced trench technology to provide excellent $R_{DS(on)}$
- Low gate charge and operation with gate voltages as low as 2.5V
- Halogen-free Product

V_{DSS}	$R_{DS(on)}$ Max	I_D
20V	24mΩ	6A

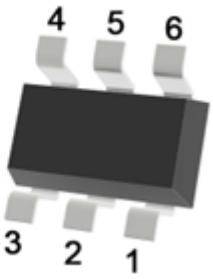
Equivalent Circuit & Pinning







Front view



Top view

Marking

Marking	8205

Absolute Maximum Ratings(Ta=25℃)

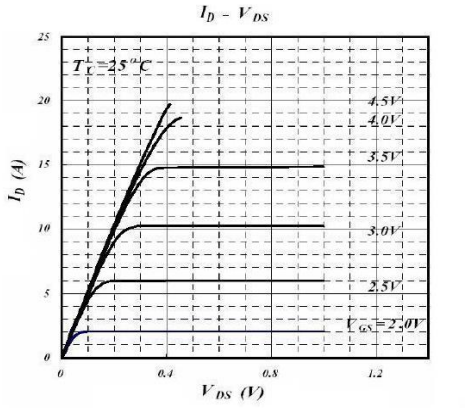
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	20	V
Drain Current - Continuous	I_D(Ta=25℃)	6	A
Drain Current - Continuous	I_D(Ta=70℃)	4.8	A
Drain Current – Pulsed	I_{DM}	20	A
Gate-Source Voltage	V_{GS}	±12	V
Maximum Power Dissipation	P_D(Ta=25℃)	1.14	W
Thermal Resistance Junction-to-Ambient	$R_{\theta JA}$	110	℃/ W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55～150	℃

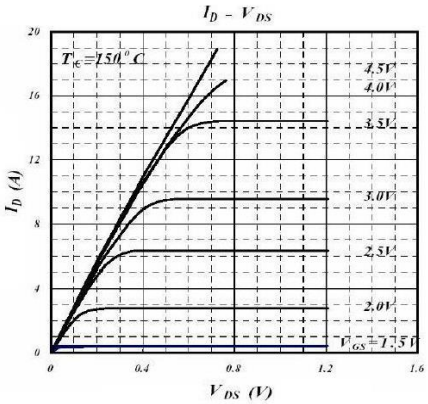
Electrical Characteristics(Ta=25℃)

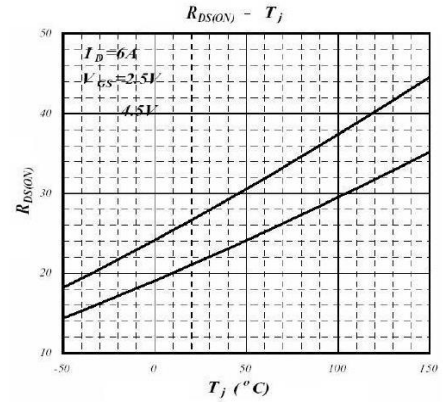
Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V	I_D=250μA	20			V
Drain-Source Leakage Current(T_j=25℃)	I_{DSS}	V_{DS}=20V	V_{GS}=0V			1	μA
Drain-Source Leakage Current(T_j=70℃)	I_{DSS}	V_{DS}=16V	V_{GS}=0V			25	μA
Gate-Source Leakage Current	I_{GSS}	V_{GS}=±10V	V_{DS}=0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}	I_D=250μA	0.5		1.2	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=4.5V	I_D=6.0A		19	24	mΩ
		V_{GS}=2.5V	I_D=5.2A		22.5	30	mΩ
Forward Transconductance	g_{FS}	V_{DS}=10V	I_D=6.0A		20		S
Forward On Voltage	V_{SD}	V_{GS}=0V	I_S=1.7A			1.2	V
Input Capacitance	C_{iss}	V_{DS}=20V f=1.0MHz	V_{GS}=0V		1035		pF
Output Capacitance	C_{oss}				320		pF
Reverse Transfer Capacitance	C_{rss}				150		pF
Turn-on Delay Time	$t_{d(on)}$	V_{DS}=10V V_{GS}=5V R_D=10Ω	I_D=1A R_G=6Ω		30		ns
Rise Time	t_r				70		ns
Turn-off Delay Time	$t_{d(off)}$				40		ns
Fall Time	t_f				65		ns

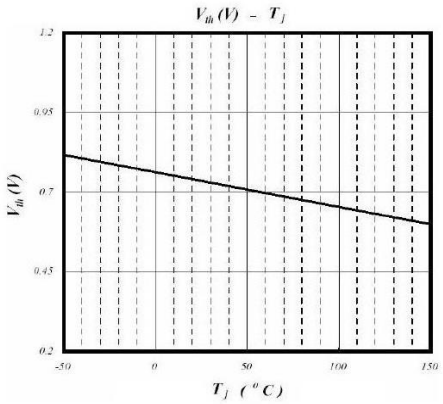
Notes: 1、Surface Mounted on FR4 Board, t ≤ 10 sec.
2、Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤2%.

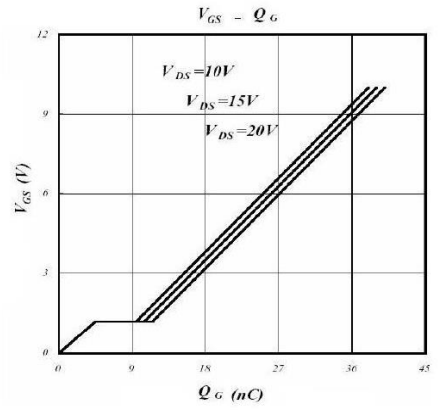
Electrical Characteristic Curve

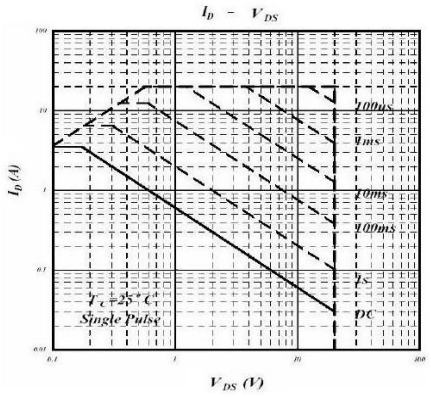


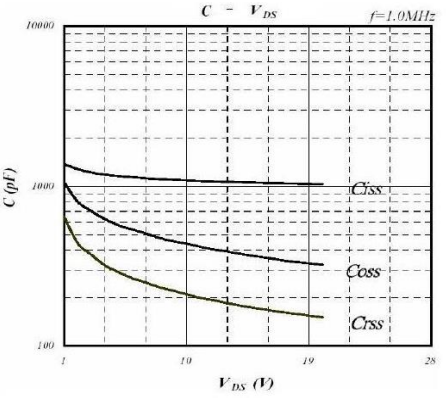


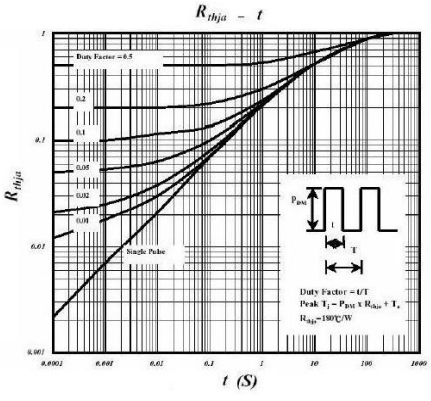




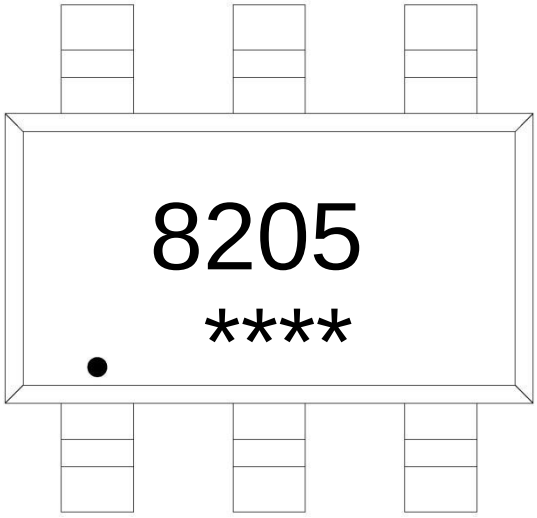








Marking Instructions



Note:

8205: Product Type Code.

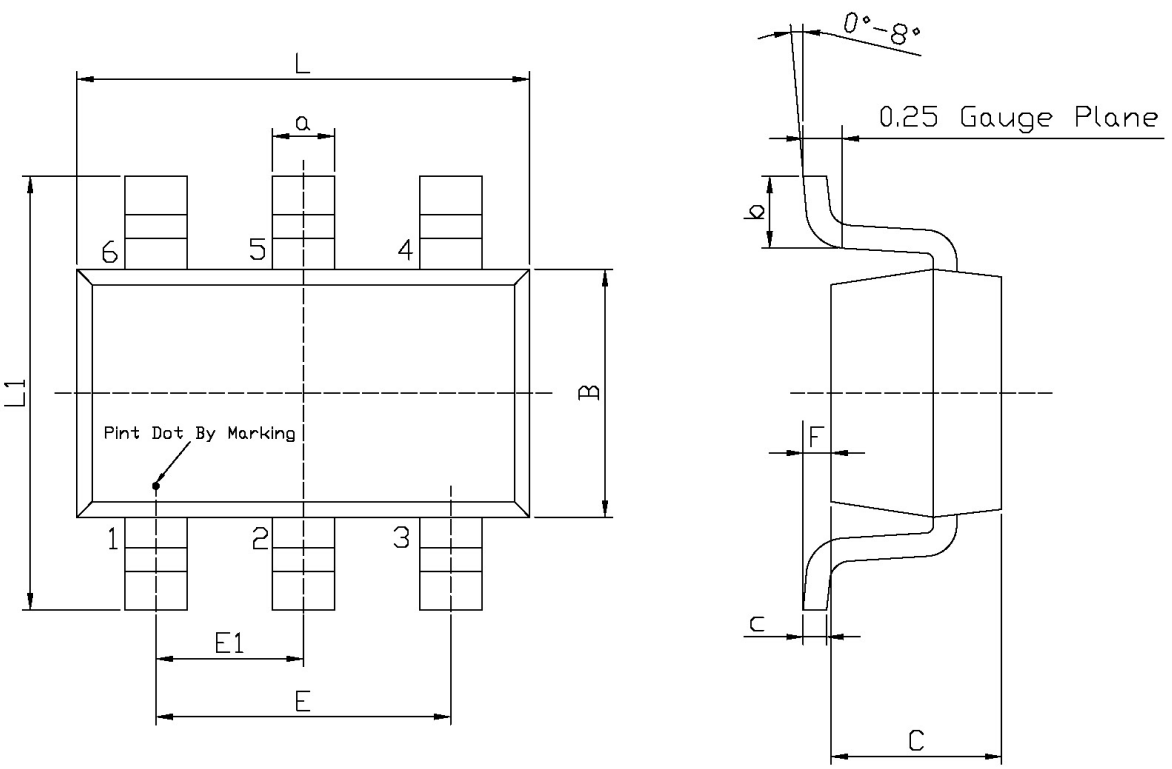
****: Lot No. Code, code change with Lot No.

Packaging SPEC.

REEL INFORMATION

Package Type	Units					Dimension (unit：mm³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT23-5/6	3,000	10	30,000	4	120,000	7″ ×8	210×205×205	445×435×230

Package Outline Dimensions



Unit: mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.82	3.02	E1	0.85	1.05
B	1.50	1.70	a	0.35	0.50
C	0.90	1.30	c	0.10	0.20
L1	2.60	3.00	b	0.35	0.55
E	1.80	2.00	F	0	0.15

SOT23-6