

N-channel Double MOSFET

Features

Advanced trench technology to provide excellent $R_{DS(on)}$, low gate charge and operation with gate voltages as low as 2.5V. HF Product.

Applications

Use as a Battery protection , Switching application.

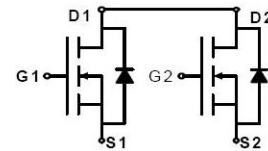
Marking

Marking: 8205

BV_{DSS}	$R_{DS(ON)}$	I_D
20V	24 mΩ	6A



SOT23-6



Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

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

Electrical Characteristics(Ta=25°C)

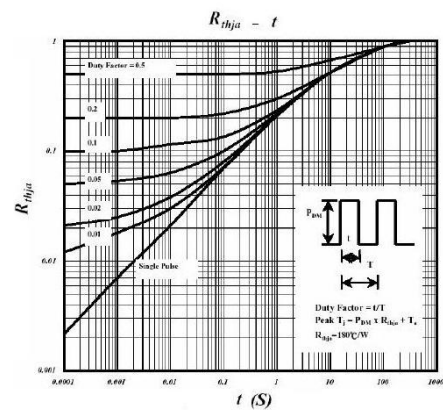
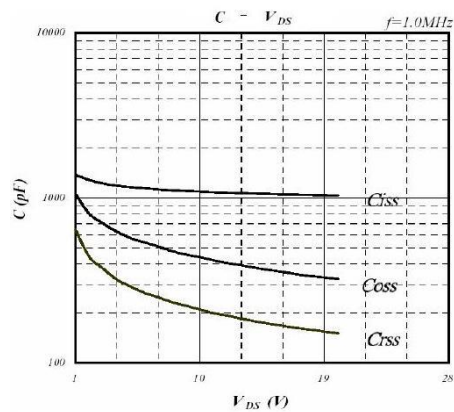
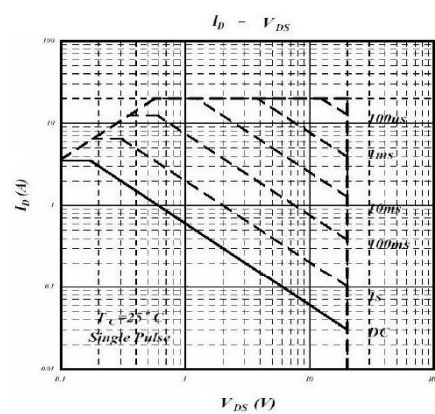
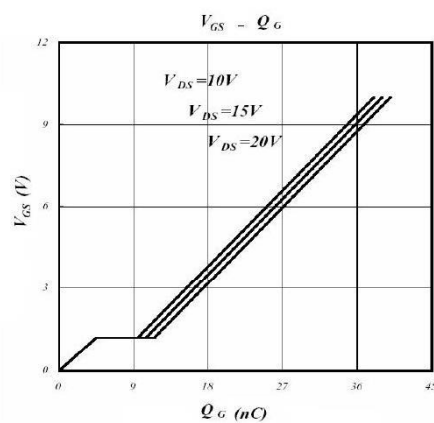
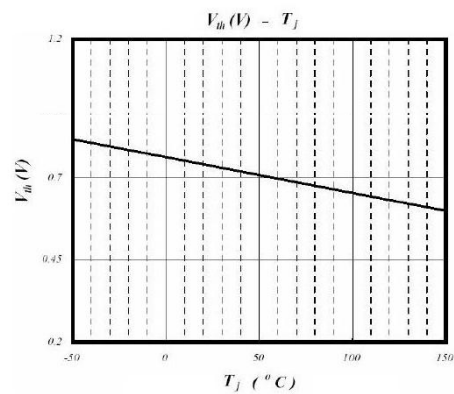
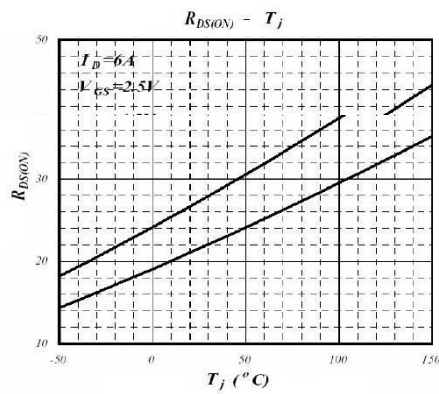
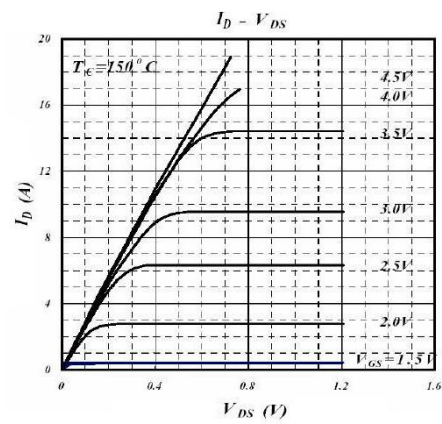
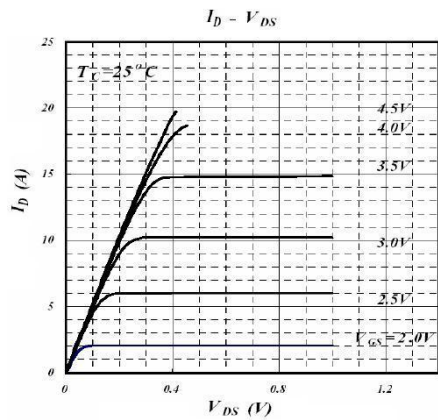
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	20			V
Drain-Source Leakage Current($T_j=25^\circ C$)	I_{DSS}	$V_{DS}=20V$ $V_{GS}=0V$			1	μA
Drain-Source Leakage Current($T_j=70^\circ C$)	I_{DSS}	$V_{DS}=16V$ $V_{GS}=0V$			25	μA
Gate-Source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

Notes:

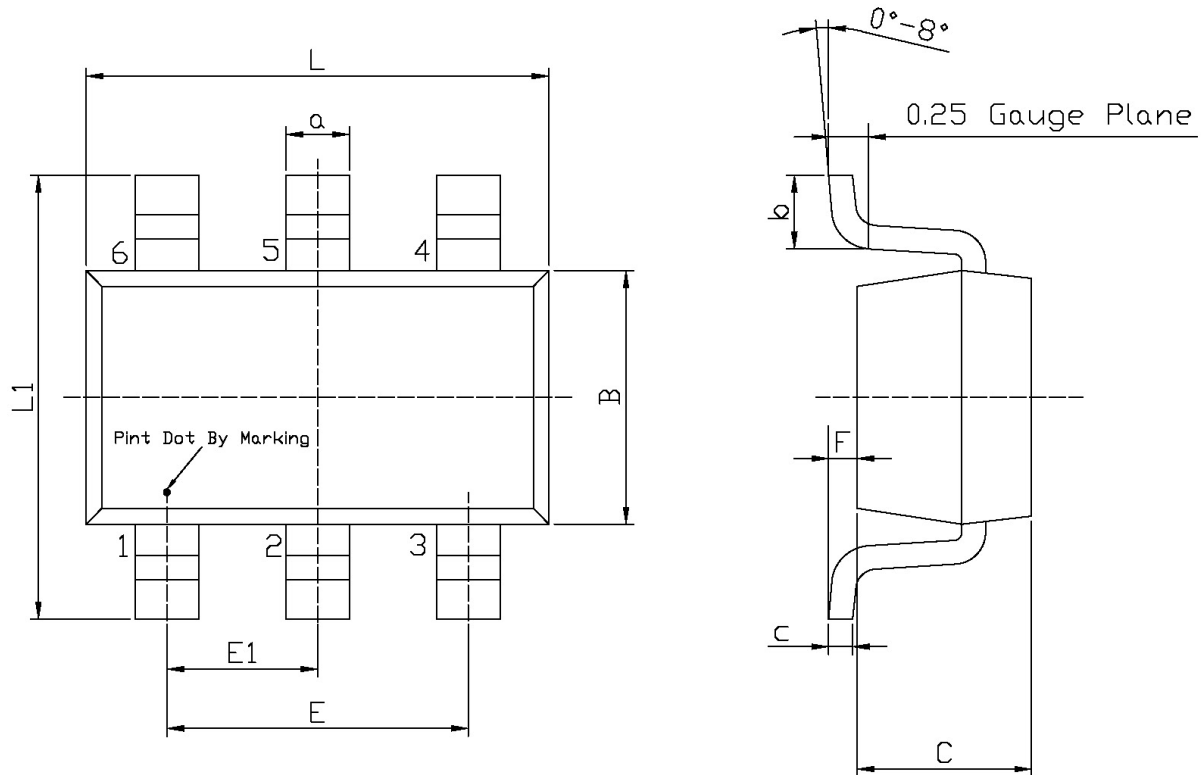
1 , Surface Mounted on FR4 Board, $t \leq 10$ sec.

2 , Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

Electrical Characteristic Curve



Package Dimensions

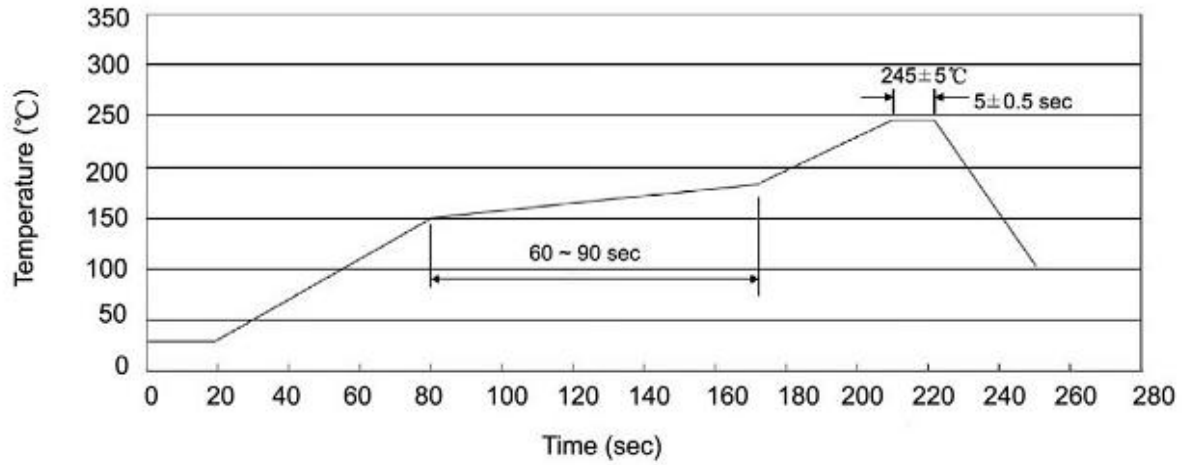


Unit: mm

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

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Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- 1.Preheating:150~180 °C, Time:60~90sec.
- 2.Peak Temp.:245 ±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

Resistance to Soldering Heat Test Conditions

Temp:260±5 °C Time:10±1 sec