

/ Descriptions

SOT23-6 N MOS N-channel Double MOSFET in a SOT23-6 Plastic Package.

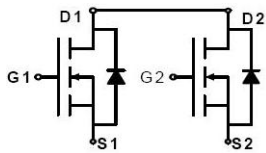
/ Features

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

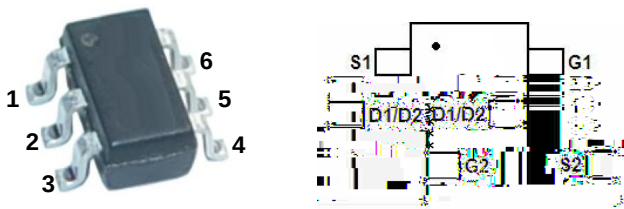
/ Applications

Use as a Battery protection , Switching application.

/ Equivalent Circuit



/ Pinning



/ Marking

Marking	8205
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/ 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	$^{\circ}C/W$
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

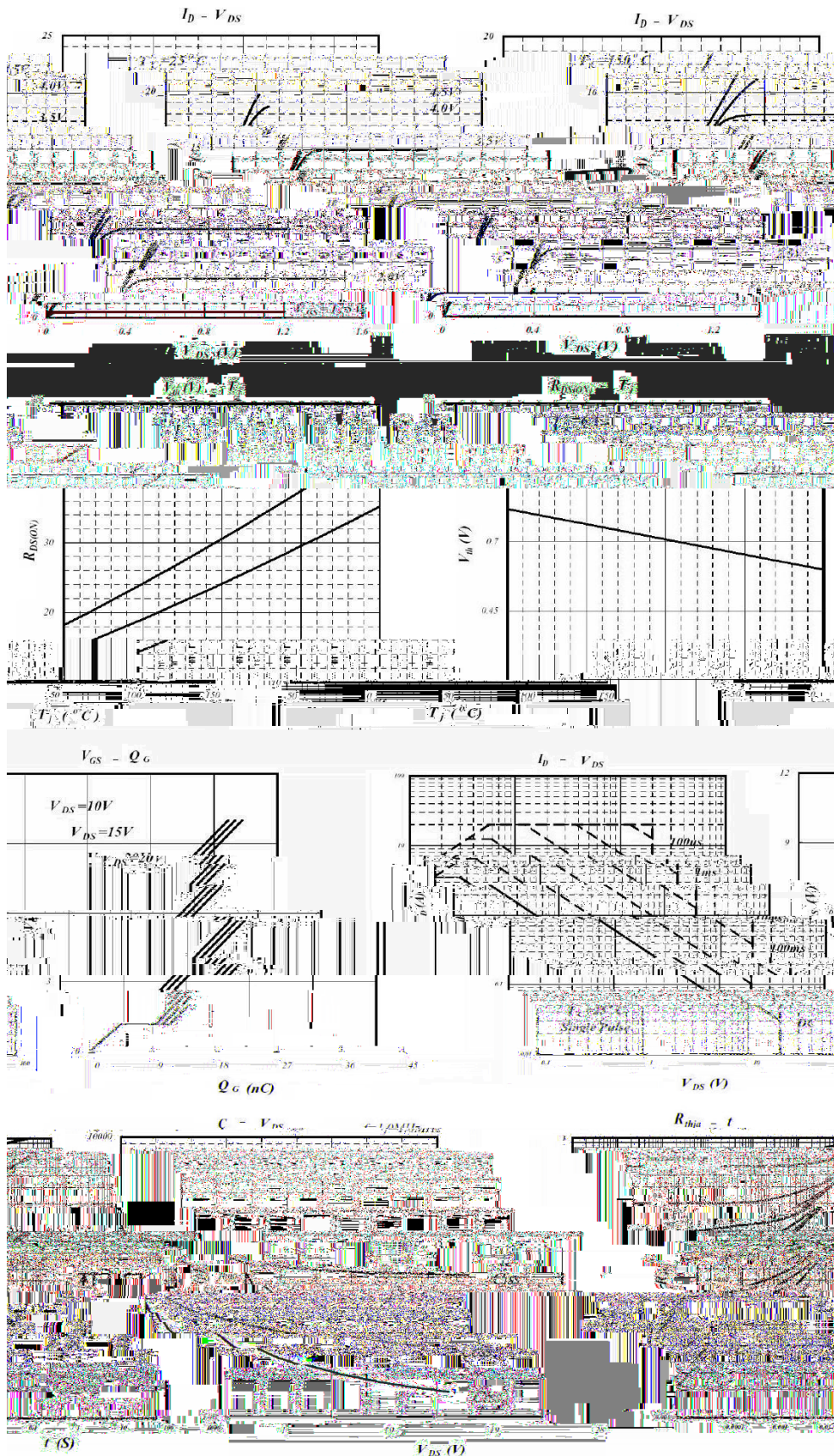
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	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

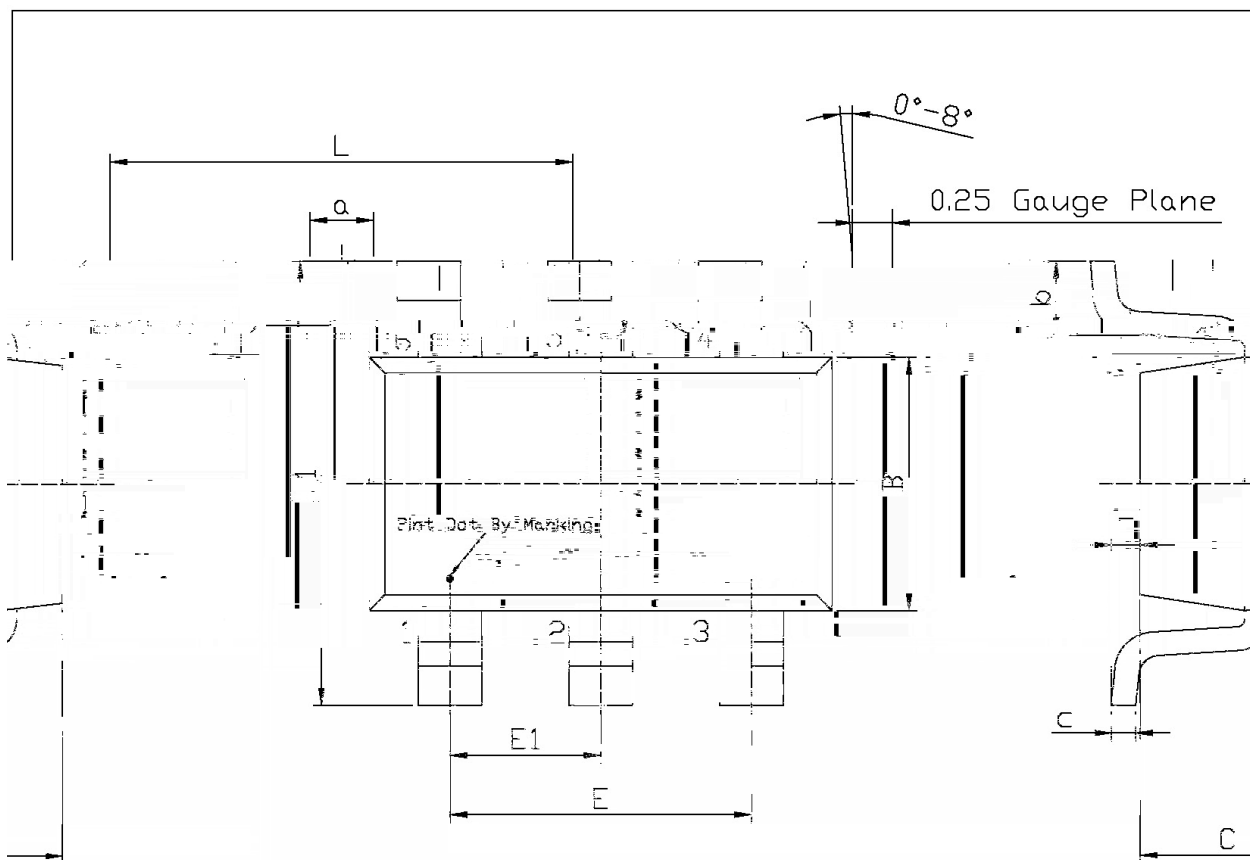
/Notes:

- 1 FR4 $t \leq 10$ Surface Mounted on FR4 Board, $t \leq 10$ sec.
- 2 $\leq 300\mu s$ ≤ 2 Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

/ Electrical Characteristic Curve



/ Package Dimensions



mm

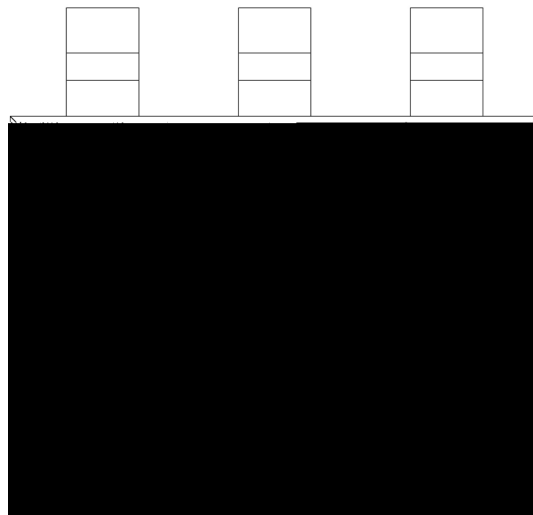
ns

Unit:

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeter	
	Min	Max		Min	Max
L	2.82	3.32	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

/ Marking Instructions



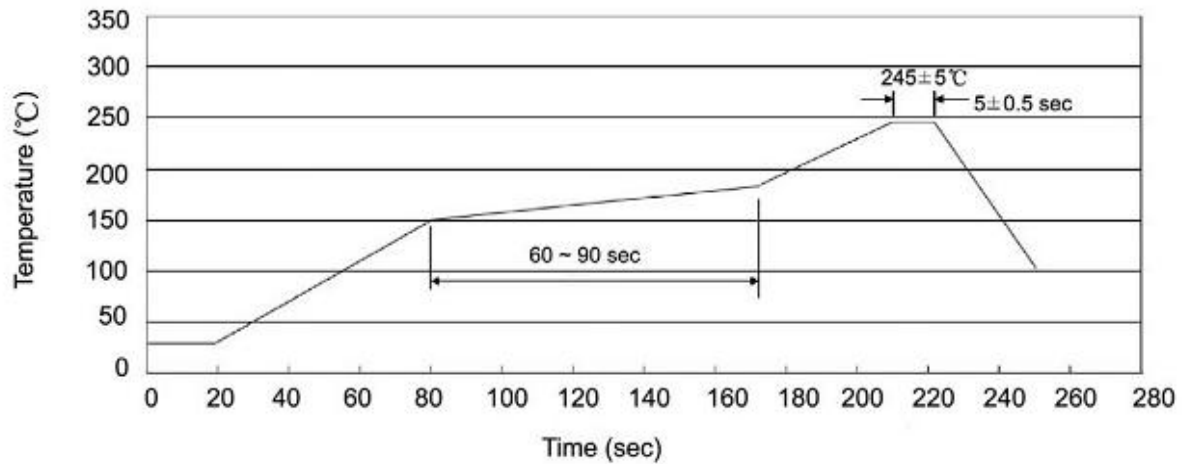
8205

Note:

8205: Product Type Code.

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

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

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

/ Resistance to Soldering Heat Test Conditions

260±5 10±1 sec. Temp:260±5℃