

Descriptions

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

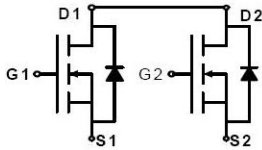
Features

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

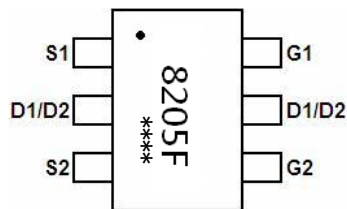
Applications

Use as a Battery protection , Switching application.

Equivalent Circuit



Pinning



Marking

Marking	8205F
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Absolute Maximum Ratings(Ta=25 °C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	20	V
Drain Current - Continuous	$I_D(Ta=25^{\circ}C)$	6.0	A
Drain Current - Continuous	$I_D(Ta=100^{\circ}C)$	4.8	A
Drain Current – Pulsed	I_{DM}	20	A
Gate-Source Voltage	V_{GS}	± 12	V
Maximum Power Dissipation	$P_D(Ta=25^{\circ}C)$	1.14	W
Thermal Resistance Junction-to-Ambient	$R_{\theta JA}$	110	$^{\circ}C/W$
Junction Temperature	T_j	150	$^{\circ}C$
Storage Temperature Range	T_{stg}	-55 ~ 150	$^{\circ}C$

Electrical Characteristics(Ta=25°C)

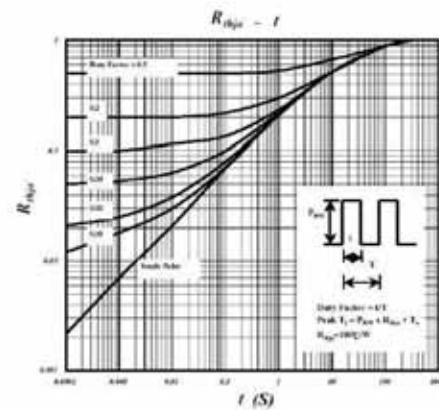
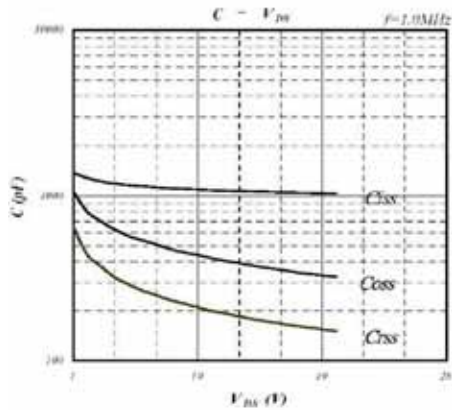
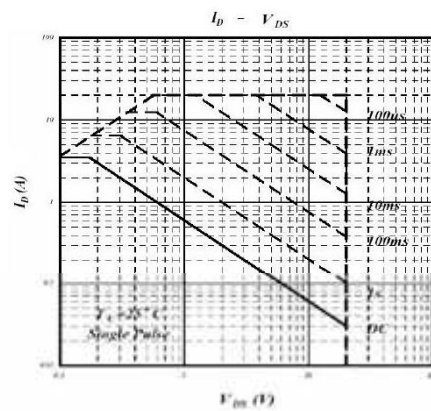
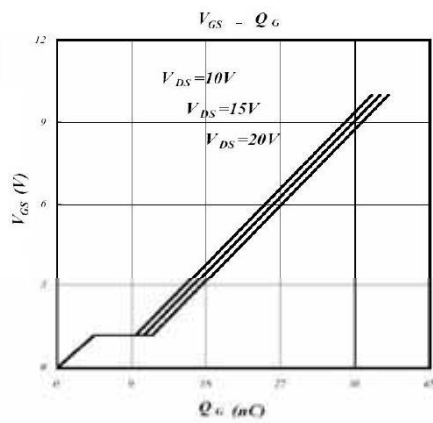
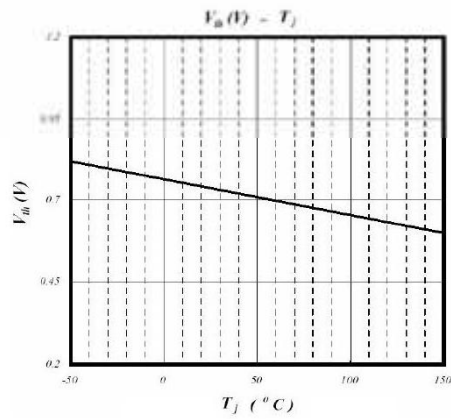
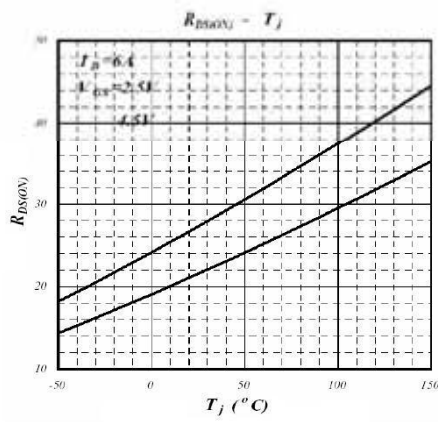
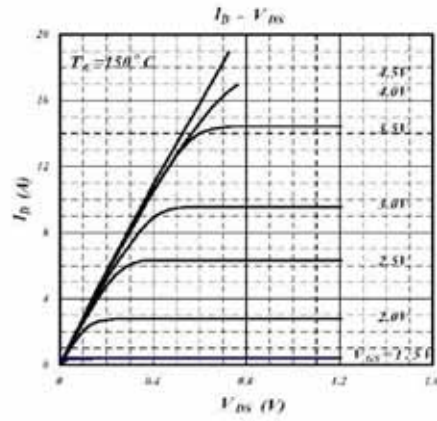
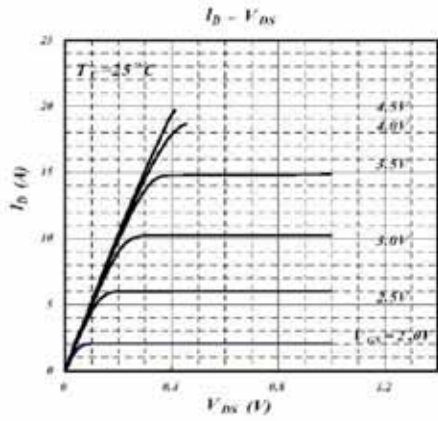
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	20			V
Drain-Source Leakage Current($T_j=25^{\circ}C$)	I_{DSS}	$V_{DS}=20V$ $V_{GS}=0V$			1	μA
Drain-Source Leakage Current($T_j=70^{\circ}C$)	I_{DSS}	$V_{DS}=16V$ $V_{GS}=0V$			25	μA
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	$R_{DS(on)}$	$V_{GS}=4.5V$ $I_D=1.0A$		11.5	17	m Ω
		$V_{GS}=2.5V$ $I_D=1.0A$		16.5	22	m Ω
		$V_{GS}=4.5V$ $I_D=6.0A$		14	20	m Ω
		$V_{GS}=2.5V$ $I_D=5.2A$		17	24	m Ω
Forward Transconductance	g_{FS}	$V_{DS}=5.0V$ $I_D=4.0A$	5			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:

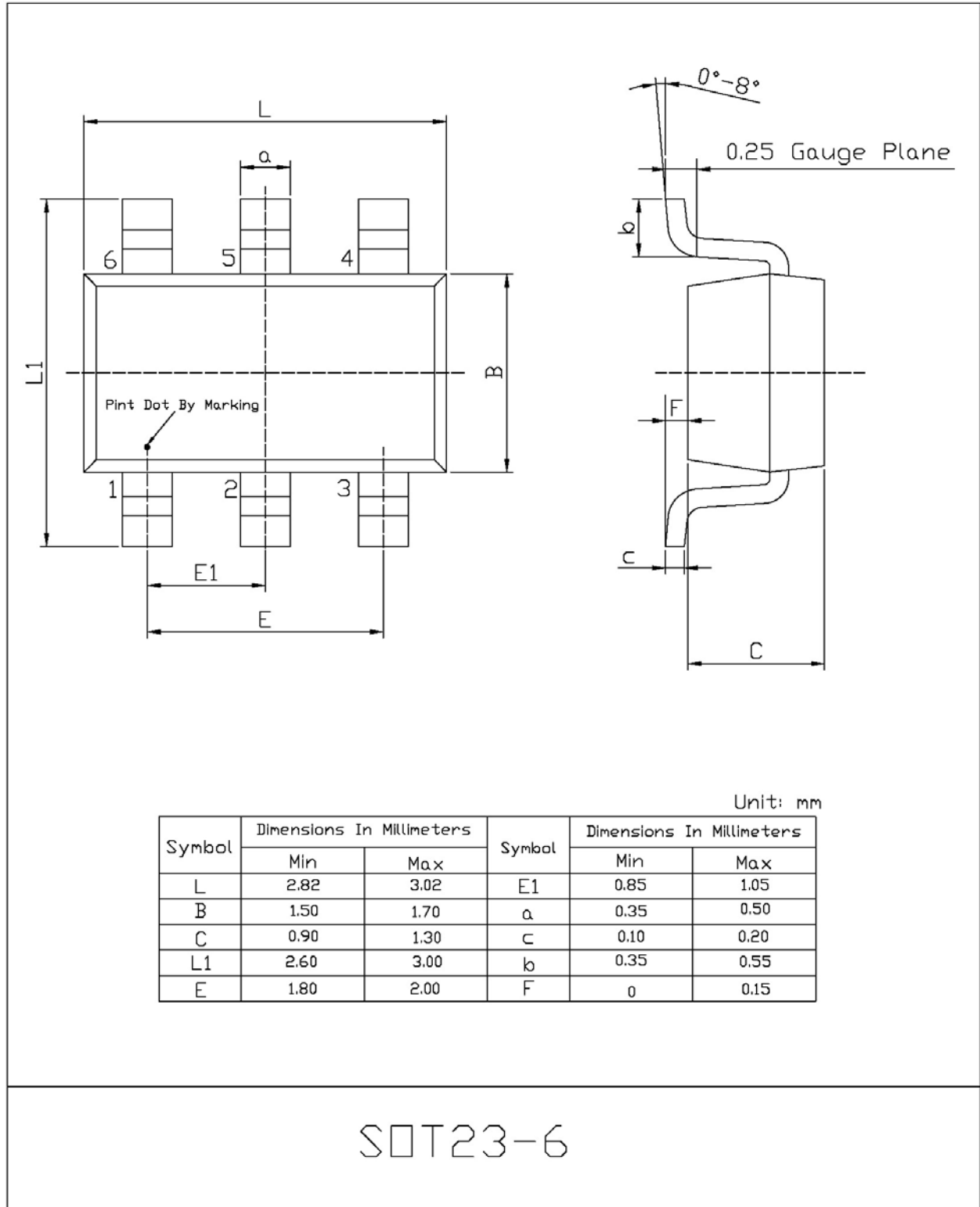
1. Surface Mounted on FR4 Board, $t \leq 10$ sec.

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

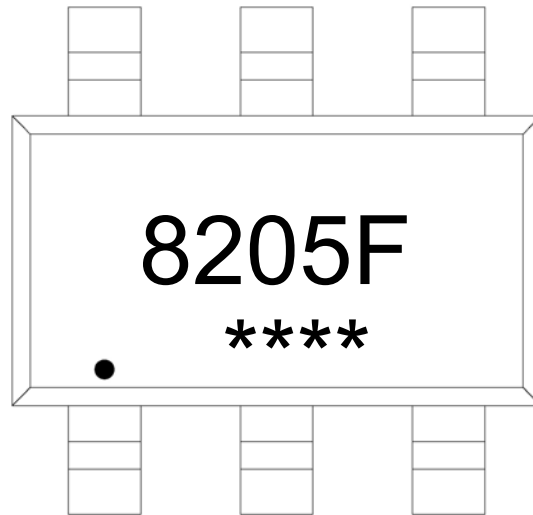
RATING AND CHARACTERISTICS CURVES (RM8205F)



Package Dimensions



Marking Instructions

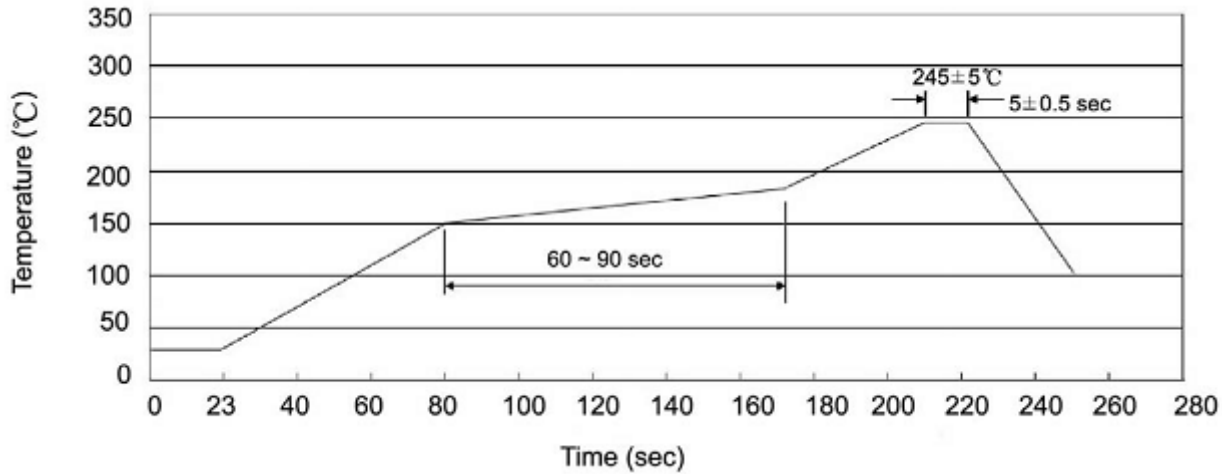


Note:

8205F: Product Type Code.

****: Date code çange with manufacturing date.

Temperature Profile for IR Reflow Soldering(Pb-Free)



Notes:

- 1.Preheating:25~150 °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

Packaging SPEC.

REEL

Package Type	Units					Dimension (unit: mm ³)		
	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" x8	210×205×205	445×230×435

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