

N-channel Double MOSFET

Features

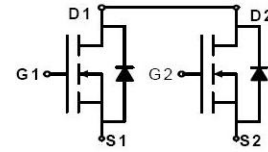
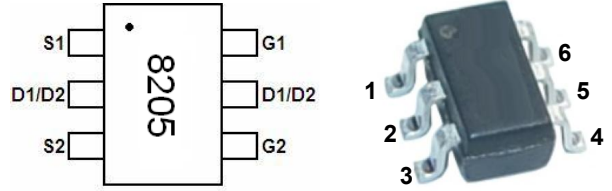
Advanced trench technology to provide excellent $R_{DS(on)}$, low gate charge and operation with gate voltages as low as 2.5V. HF Product.

Applications

Use as a Battery protection , Switching application.

Marking

Marking: 8205



SOT23-6

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	A
Drain Current - Continuous	$I_D(Ta=70^\circ C)$	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)

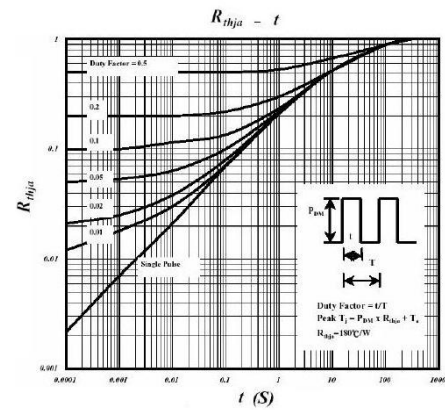
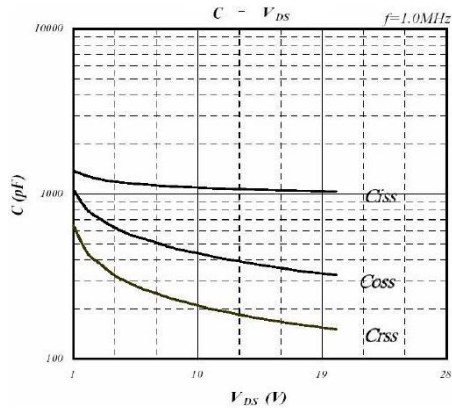
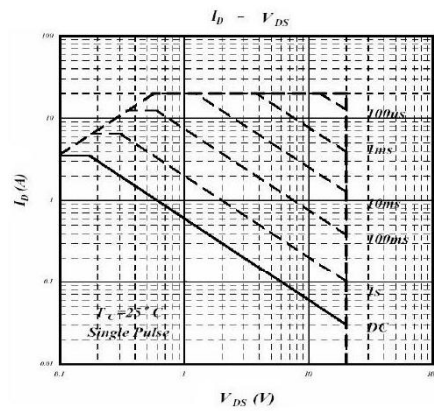
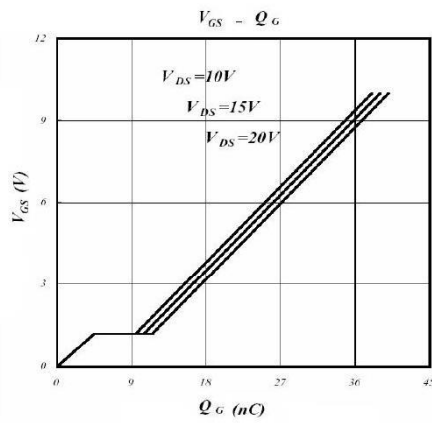
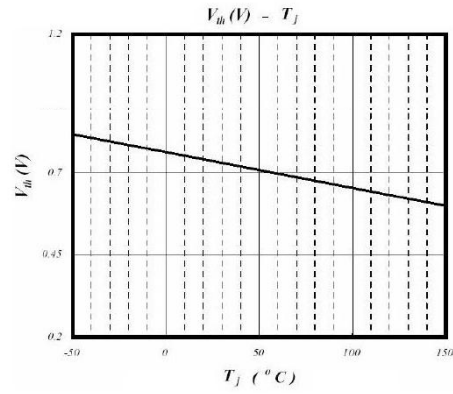
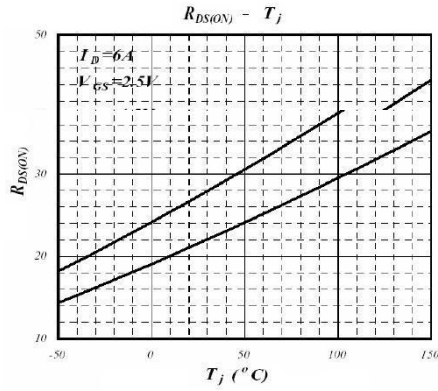
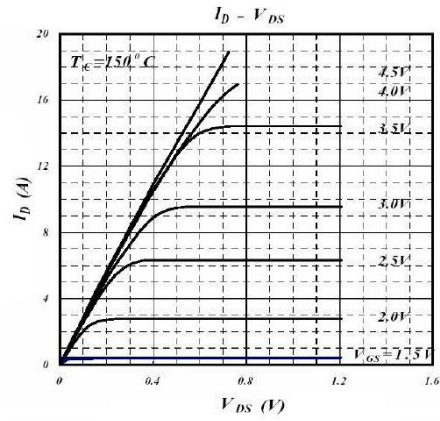
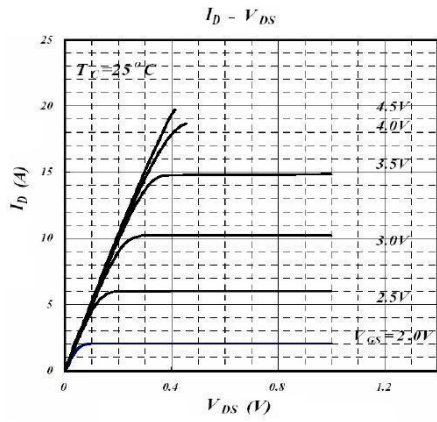
Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$	$I_D=250\mu A$	20			V
Drain-Source Leakage Current($T_j=25^\circ C$)	I_{DSS}	$V_{DS}=20V$	$V_{GS}=0V$			1	μA
Drain-Source Leakage Current($T_j=70^\circ C$)	I_{DSS}	$V_{DS}=16V$	$V_{GS}=0V$			25	μA
Gate-Source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

Notes:

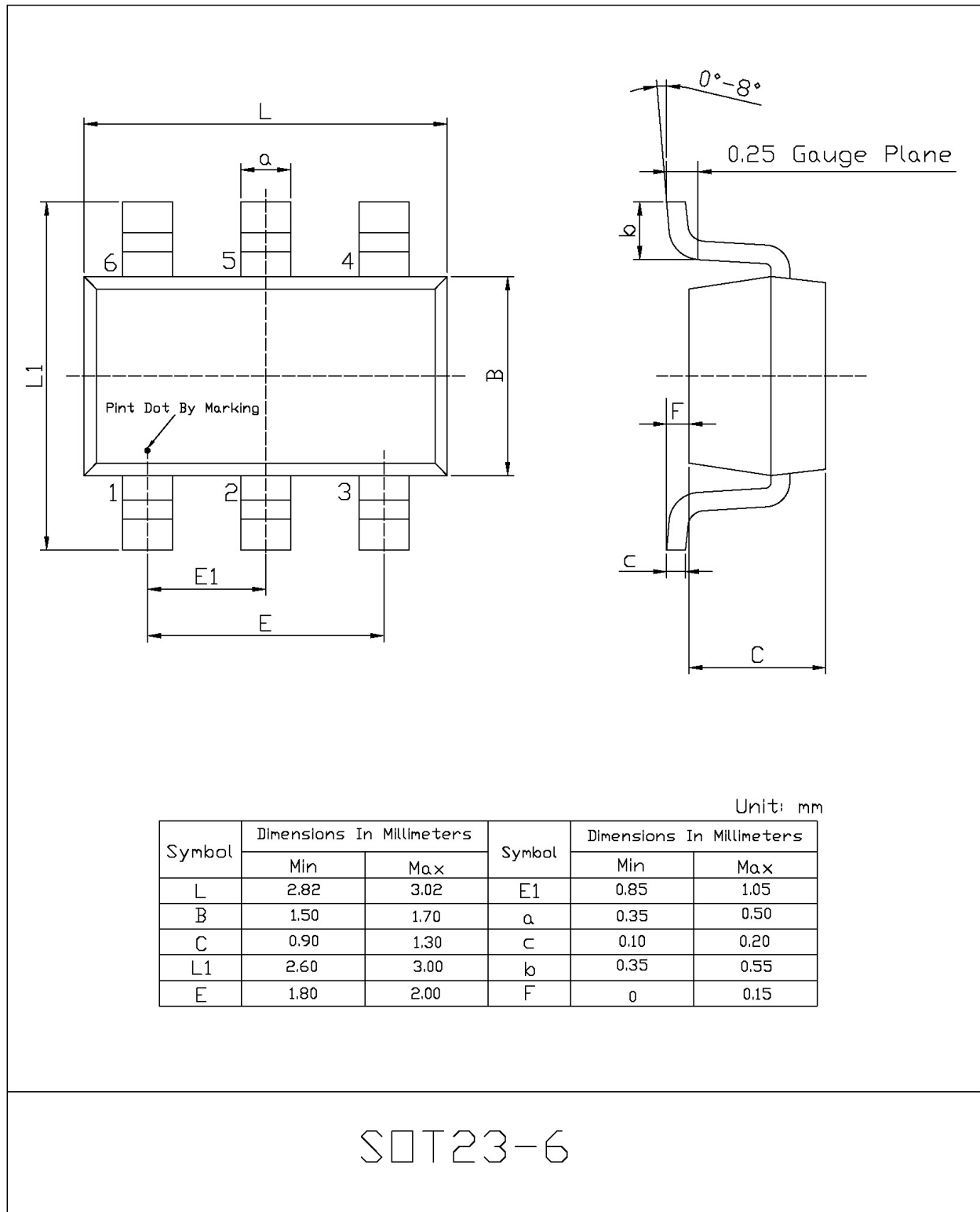
 1 , Surface Mounted on FR4 Board, $t \leq 10$ sec.

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

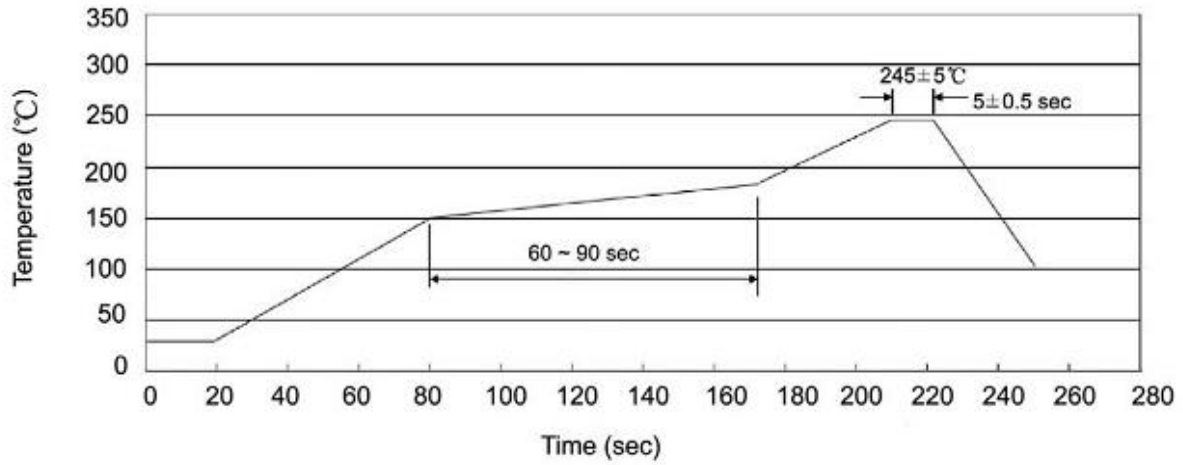
Electrical Characteristic Curve



Package Dimensions



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