描述 / Descriptions

SOT23-6 塑料封装 P 沟道 MOS 管。
P-channel MOSFET in a SOT23-6 Plastic Package。

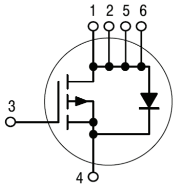
特征 / Features

超低 $R_{DS(on)}$，高效率延长电池寿命。
Ultra Low $R_{DS(on)}$,Higher Efficiency Extending Battery Life。

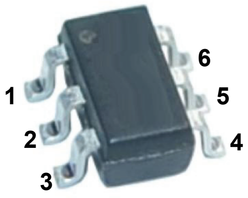
用途 / Applications

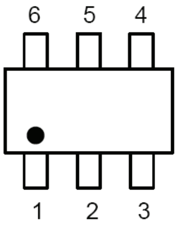
适用于便携式和电池供电产品的电源管理。
Use as Power Management in Portable and Battery-Powered Products.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning





PIN1：D　PIN 2：D　PIN 3：G　PIN 4：S　PIN 5：D　PIN 6：D

印章代码 / Marking

见印章说明。See Marking Instructions

极限参数 / Absolute Maximum Ratings(T_J=25℃)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage	V_{DSS}	-20	V
Drain Current – Continuous$^{\text{(Note 1)}}$	$I_D(T_a=25℃)$	-4.4	A
Drain Current – Pulsed$^{\text{(Note 1)}}$ $T_p<10\mu S$	I_{DM}	-20	A
Gate-Source Voltage	V_{GS}	±12	V
Maximum Power Dissipation$^{\text{(Note 1)}}$	$P_D(T_a=25℃)$	2.0	W
Maximum Junction-to-Ambient$^{\text{(Note 1)}}$	$R_{\theta JA}$	62.5	℃/ W
Maximum Junction-to-Lead	T_L	260	℃
Junction and Storage Temperature Range	$T_{j,}$ T_{stg}	-55 ~ 150	℃

Note:

1.Mounted onto a 2 in square FR−4 board (1"sq. 2 oz.cu.0.06",thick single sided),t<5.0seconds.

电性能参数 / Electrical Characteristics(T_a=25℃) (Notes2&3)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V I_D=-10μA	-20			V
Drain-Source Leakage Current	I_{DSS}	V_{DS}=-20V V_{GS}=0V T_j=25℃			-1.0	μA
		V_{DS}=-10V V_{GS}=0V T_j=70℃			-5.0	μA
Gate-Source Leakage Current	I_{GSS}	V_{GS}=±12V V_{DS}=0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=-250μA	-0.55	-0.72	-1.45	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=-4.5V I_D=-4.4A		0.058	0.065	Ω
		V_{GS}=-2.7V I_D=-3.7A		0.082	0.090	
		V_{GS}=-2.5V I_D=-3.5A		0.092	0.100	
Forward Transconductance	g_{FS}	V_{DS}=-10V I_D=-4.4A		8.8		S
Forward On Voltage	V_{SD}	V_{GS}=0V I_S=-1.7A		-0.83	-1.2	V
Input Capacitance	C_{iss}	V_{DS}=-5.0V V_{GS}=0V f=1.0MHz		565		pF
Output Capacitance	C_{oss}			320		
Reverse Transfer Capacitance	C_{rss}			120		

电性能参数 / Electrical Characteristics(T_a=25℃) (Notes2&3)

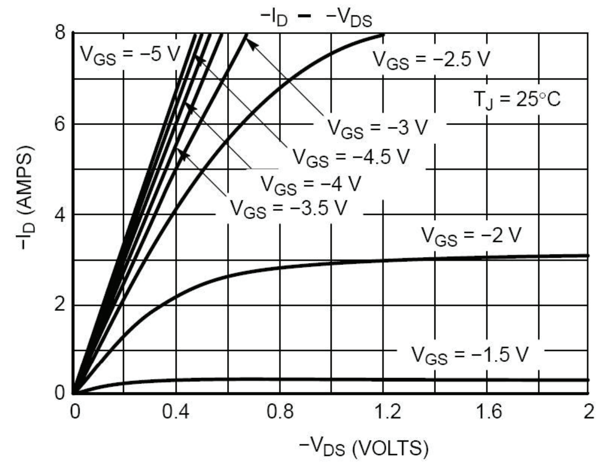
参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Total Gate Charge	Q_{tot}	V_{DS}=-10V V_{GS}=-4.5V I_D=-4.4A		7.5	15	nC
Gate Source Charge	Q_{gs}			1.4		
Gate Drain Charge	Q_{gd}			2.9		
Turn-on Delay Time	$t_{d(on)}$	V_{DS}=-20V V_{GS}=-4.5V I_D=-1.0Ω R_g=6.0Ω		10	25	ns
Rise Time	t_r			18	45	ns
Turn-off Delay Time	$t_{d(off)}$			30	50	μs
Fall Time	t_f			31	50	μs
Body Diode Reverse Recovery Time	t_{rr}	I_F=-1.7A dI_S/dt=100A/μs		30		ns

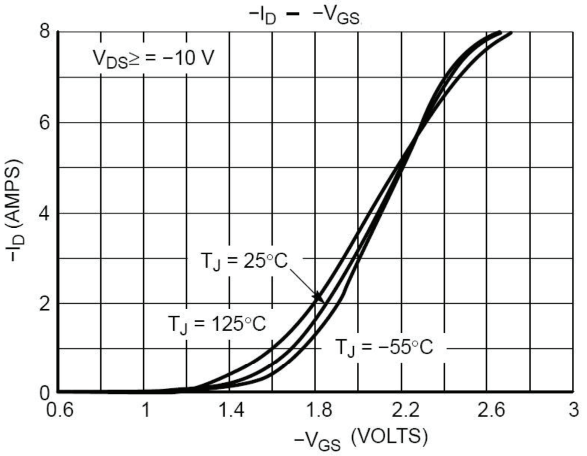
Notes:

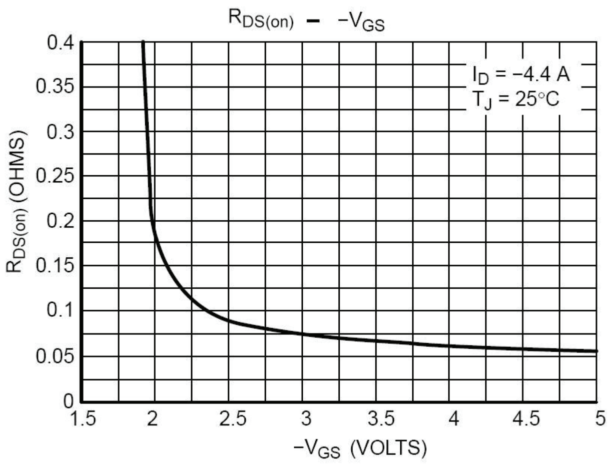
2.Indicates Pulse Test: P.W. =300μs max, Duty Cycle = 2%.

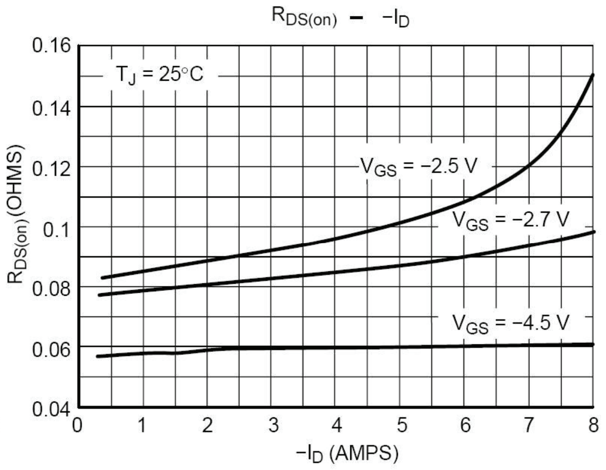
3.Handling precautions to protect against electrostatic discharge is mandatory.

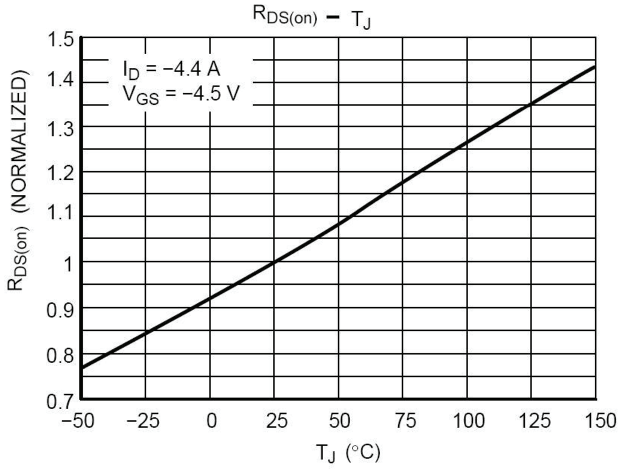
电参数曲线图 / Electrical Characteristic Curve

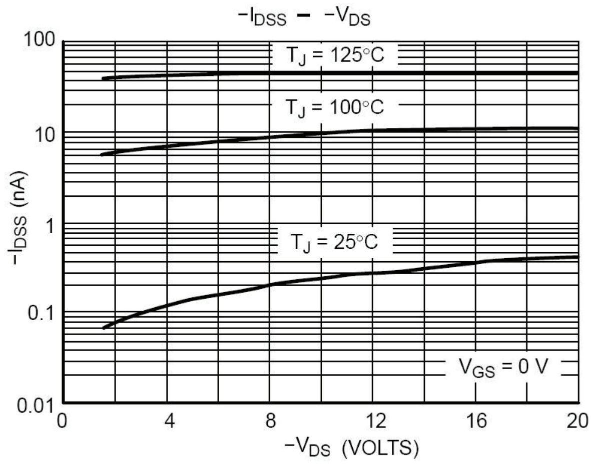




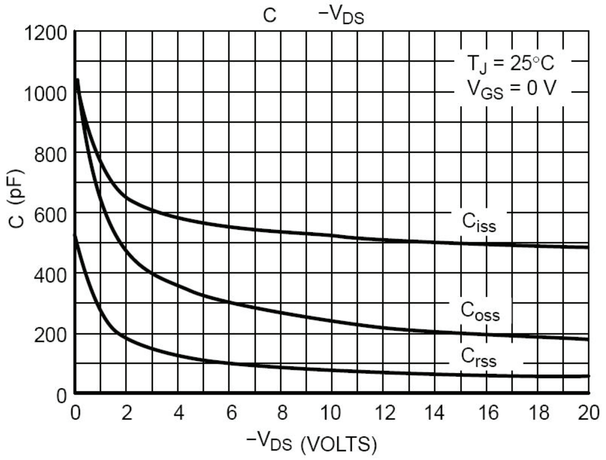


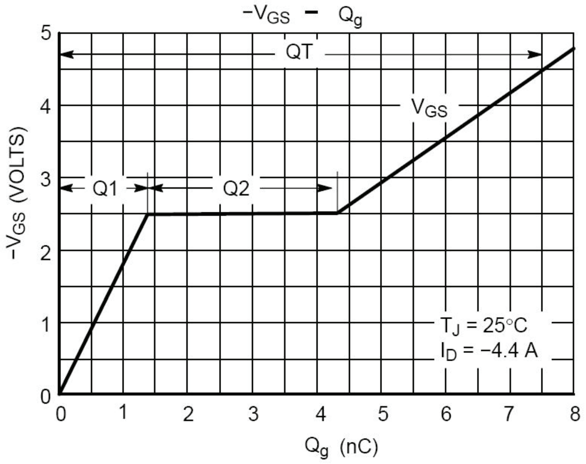


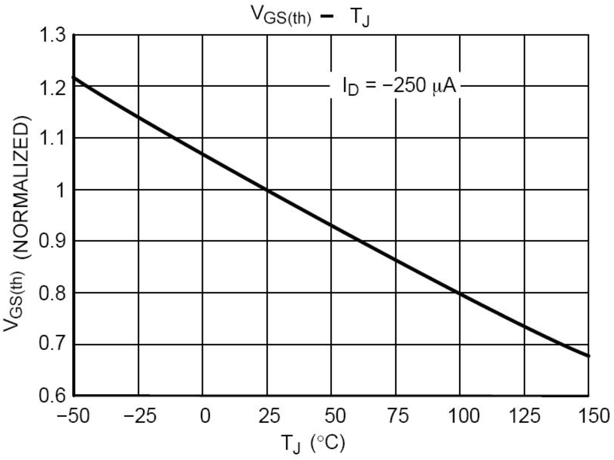


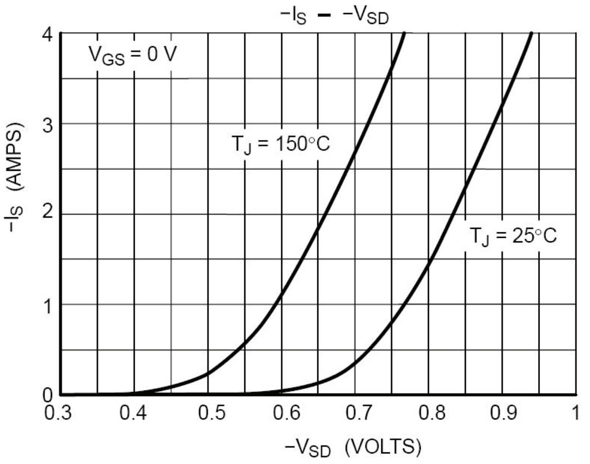


电参数曲线图 / Electrical Characteristic Curve

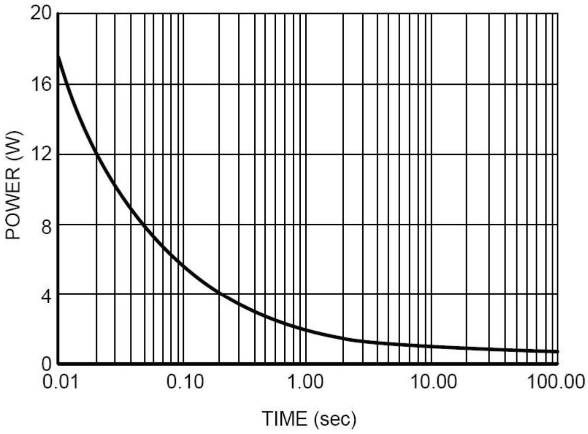


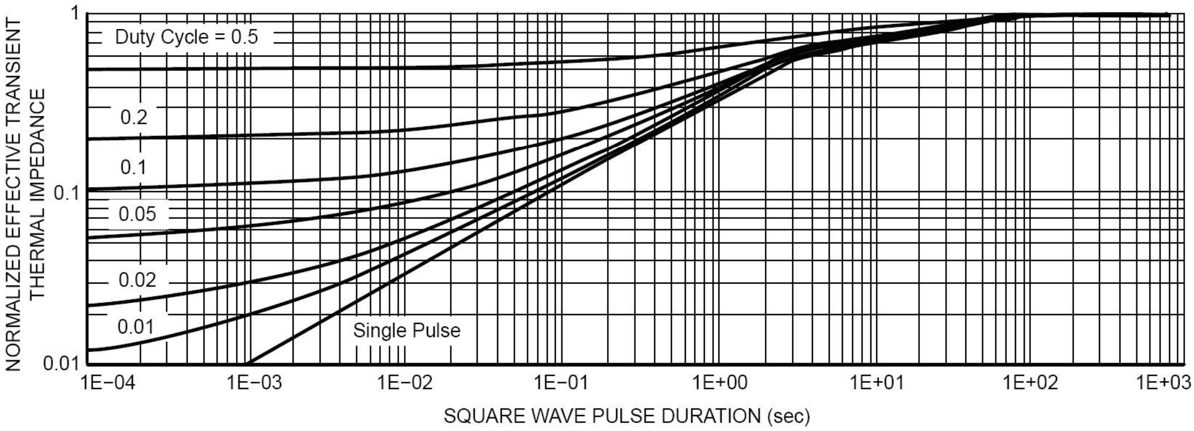




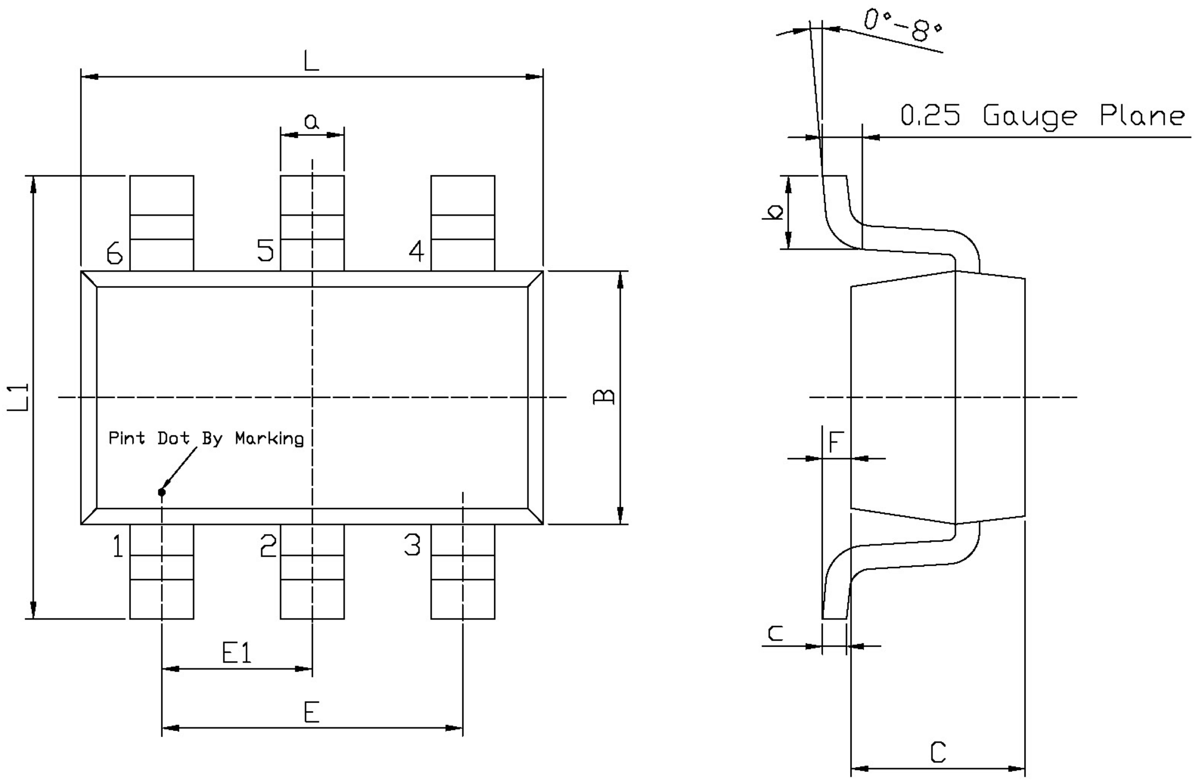


测试电路和波形 / Test circuit and waveform





外形尺寸图 / Package Dimensions

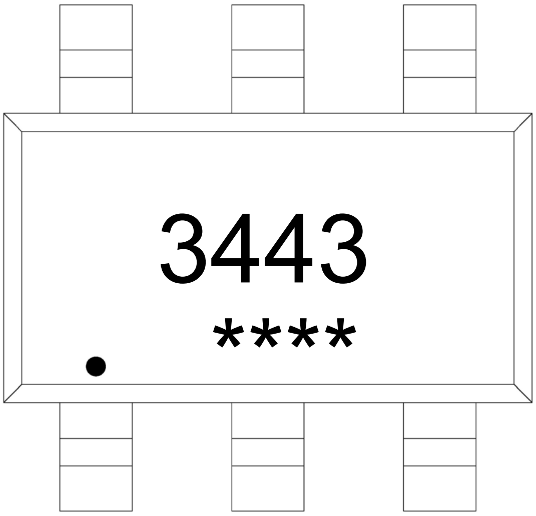


Unit: mm

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

SOT23-6

印章说明 / Marking Instructions



说明：

3443： 为型号代码

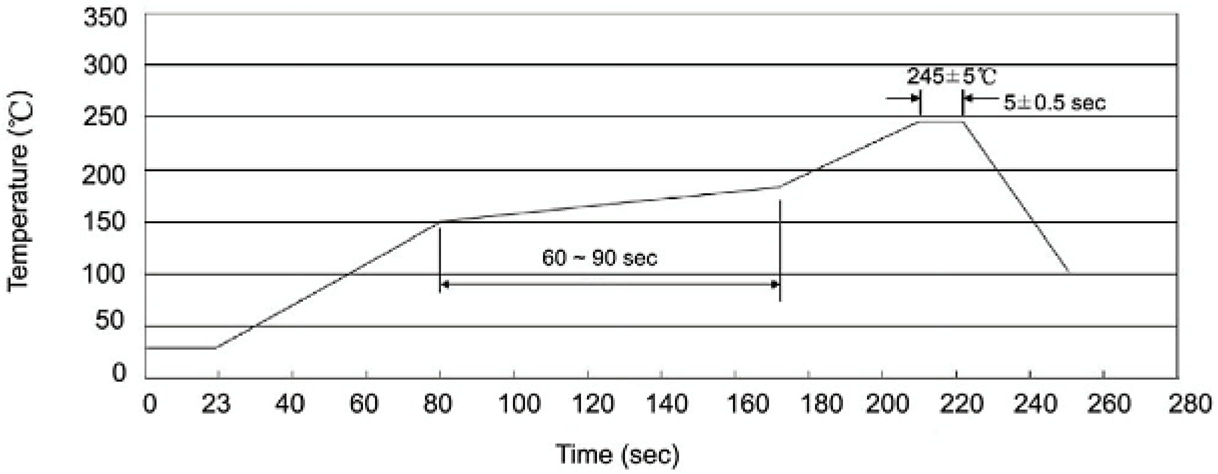
****： 为生产批号代码，随生产批号变化。

Note:

3443: Product Type.

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

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)



说明：	Note:
1、预热温度 25 ~ 150℃，时间 60 ~ 90sec;	1.Preheating:25~150℃, Time:60~90sec.
2、峰值温度 245±5℃，时间持续为 5±0.5sec;	2.Peak Temp.:245±5℃, Duration:5±0.5sec.
3、焊接制程冷却速度为 2 ~ 10℃/sec.	3. Cooling Speed: 2~10℃/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：260±5℃　　时间：10±1 sec.　　Temp:260±5℃　　Time:10±1 sec

包装规格 / Packaging SPEC.

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm^3)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOT23-5/6	3,000	10	30,000	4	120,000	7″ ×8	210×205×205	445×230×435

使用说明 / Notices