

描述 / Descriptions

SOT-363 塑封封装双 N 沟道 MOS 场效应管。

Double N-CHANNEL MOSFET in a SOT-363 Plastic Package.

特征 / Features

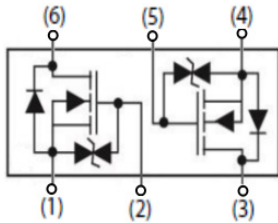
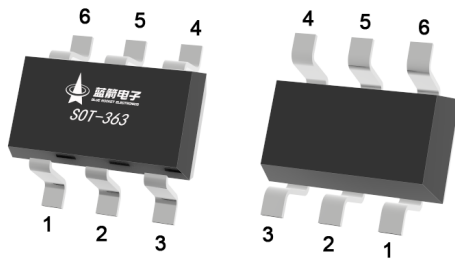
灵敏的控制级触发电流和很低的维持电流，内置静电保护二极管，无卤产品。

Sensitive gate trigger current and Low Holding current, ESD protected diode, HF Product.

用途 / Applications

用作一般的开关和相位控制。

Intended for use in general purpose switching and phase control applications.

内部等效电路 / Equivalent Circuit**引脚排列 / Pinning**

PIN1、4 : S PIN 2、5 : G PIN 3、6 : D

印章代码 / Marking

见印章说明。

See Marking Instructions.

极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Drain-Source Voltage	V_{DSS}	60	V
Drain-Gate Voltage	V_{DGR}	60	V
Maximum Drain Current - Continuous	I_D	320	mA
Maximum Drain Current - Pulsed	I_{DM}	1.5	A
Gate-Source Voltage - Continuous	V_{GSS}	± 20	V
Maximum Power Dissipation	P_D	350	mW
Junction Temperature Range	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C
Maximum Junction-to-Ambient(Note 1)	$R_{\theta JA}(\text{Steady State})$	417	°C/W
	$R_{\theta JA}(t \leq 5s)$	300	

Note 1) Surface-mounted on FR4 board using 1 sq in pad size with 1 oz Cu.

电性能参数 / Electrical Characteristics(Ta=25°C)

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_{DSS}	$V_{GS}=0$ $I_D=250\mu A$	60			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{GS}=0$ $V_{DS}=60V$			1.0	μA
Gate-Source Leakage	I_{GSS}	$V_{DS}=0V$ $V_{GS}=\pm 20V$			± 10	μA
Static Drain-Source On-Resistance	$R_{DS(on)(1)}$	$V_{GS}=10V$ $I_D=0.5A$			2.3	Ω
	$R_{DS(on)(2)}$	$V_{GS}=5V$ $I_D=0.05A$		1.7	2.7	Ω
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=250mA$			1.5	V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	1.0	1.6	2.5	V
Forward Transconductance	Y_{fs}	$V_{DS}=10V$ $I_D=0.2A$	80			mS
Input Capacitance	C_{iss}	$V_{GS}=0V$, $V_{DS}=20V$ $f=1MHz$		25	50	pF
Output Capacitance	C_{oss}			11	25	
Reverse Transfer Capacitance	C_{rss}			2.5	5	
Total Gate Charge	$Q_{G(TOT)}$	$V_{GS}=4.5V$, $V_{DS}=10V$; $I_D=200mA$		0.7		nC
Threshold Gate Charge	$Q_{G(TH)}$			0.1		
Gate-to-Source Charge	Q_{GS}			0.3		
Gate-to-Drain Charge	Q_{GD}			0.1		

电性能参数 / Electrical Characteristics(Ta=25°C)

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
Turn-On Delay Time	$t_{d(ON)}$	$V_{GS}=10V,$ $V_{DD}=25V,$ $I_D=500mA,$ $R_G=25\ \Omega$		6.0		ns
Rise Time	t_r			5.8		
Turn-Off Delay Time	$t_{d(OFF)}$			13.2		
Fall Time	t_f			8.9		

电参数曲线图 / Electrical Characteristic Curve

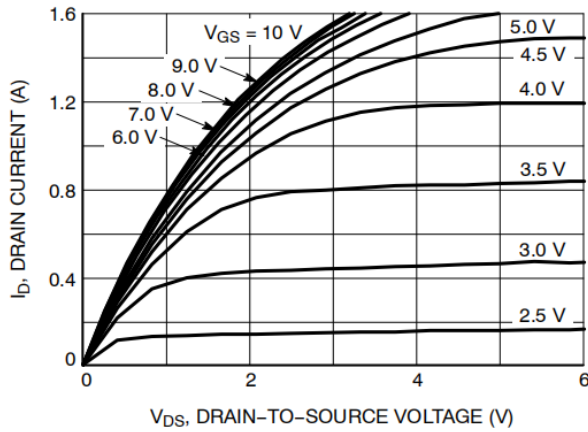


Figure 1. On-Region Characteristics

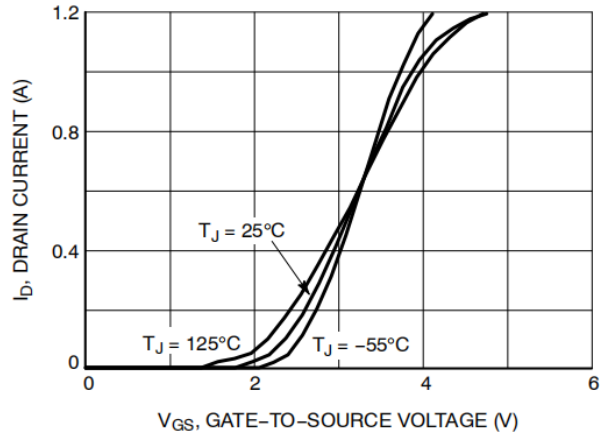


Figure 2. Transfer Characteristics

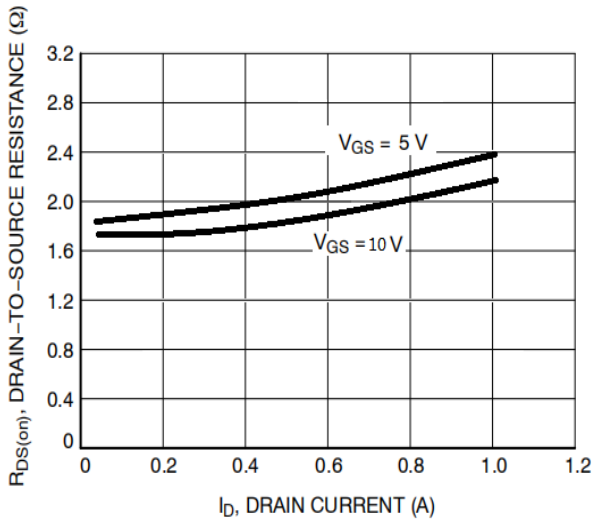


Figure 3. On-Resistance vs. Drain Current and Temperature

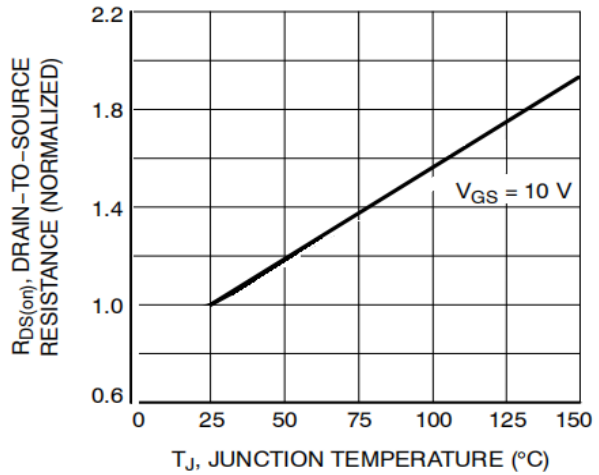


Figure 4. On-Resistance Variation with Temperature

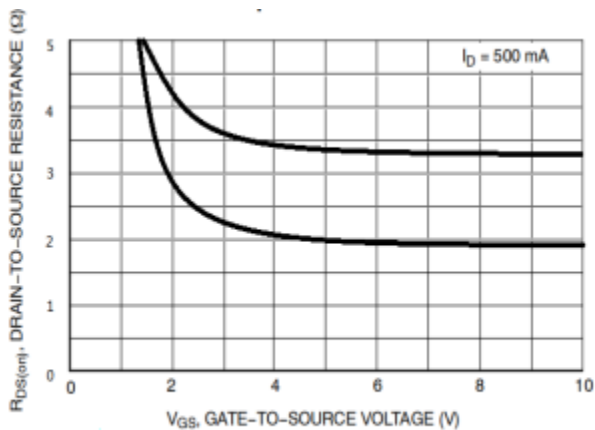


Figure 5. On-Resistance vs. Gate-to-Source Voltage

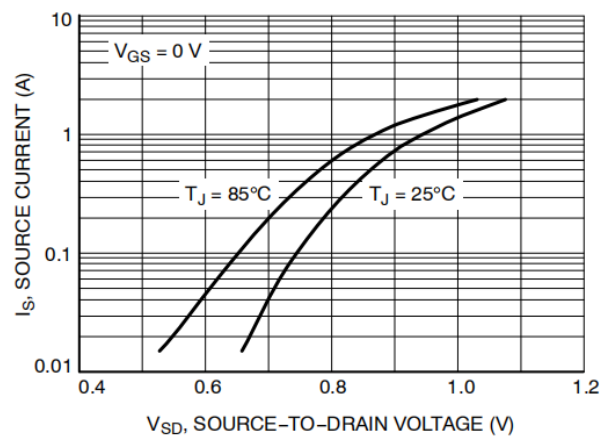


Figure 6. Diode Forward Voltage vs. Current

电参数曲线图 / Electrical Characteristic Curve

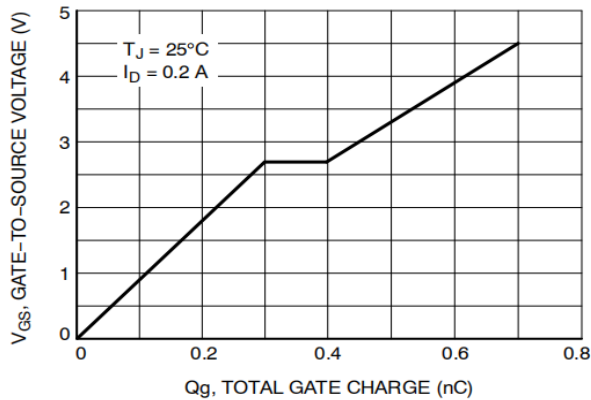


Figure 7 . Gate-to-Source and Drain-to-Source Voltage vs. Total Charge

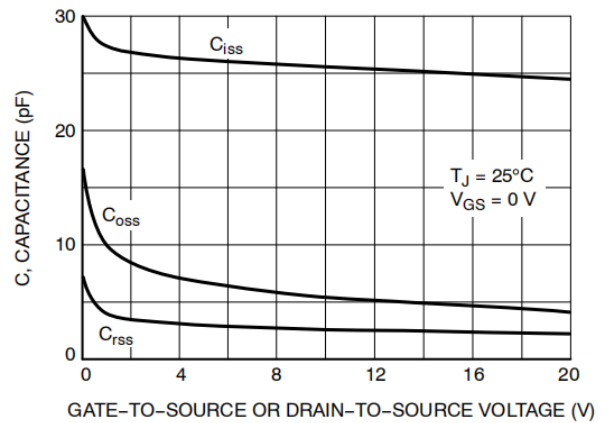


Figure 8. Capacitance Variation

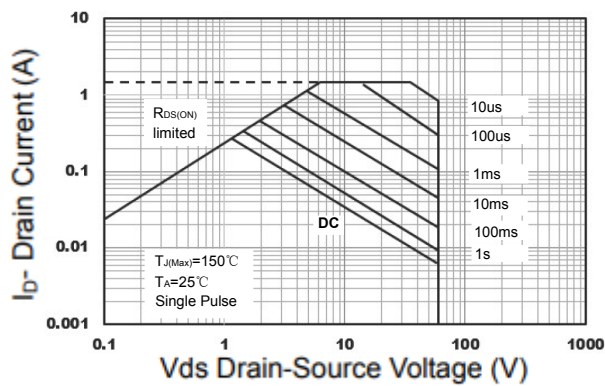


Figure 9 : Safe Operation Area

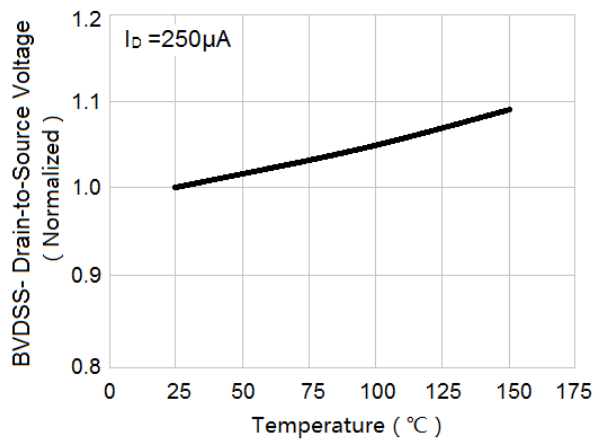


Figure 10 : Breakdown Voltage vs. Temperature

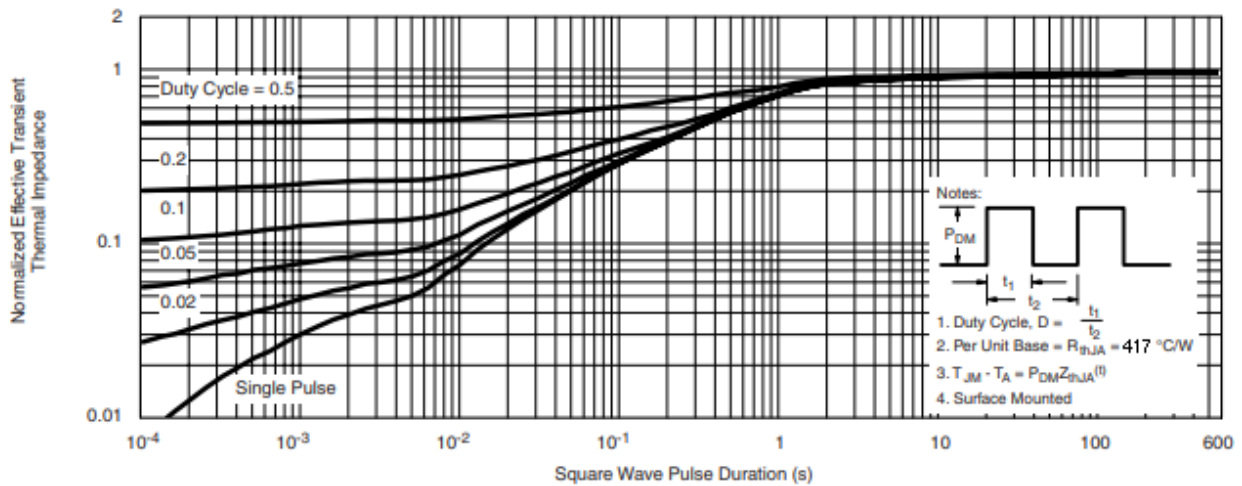
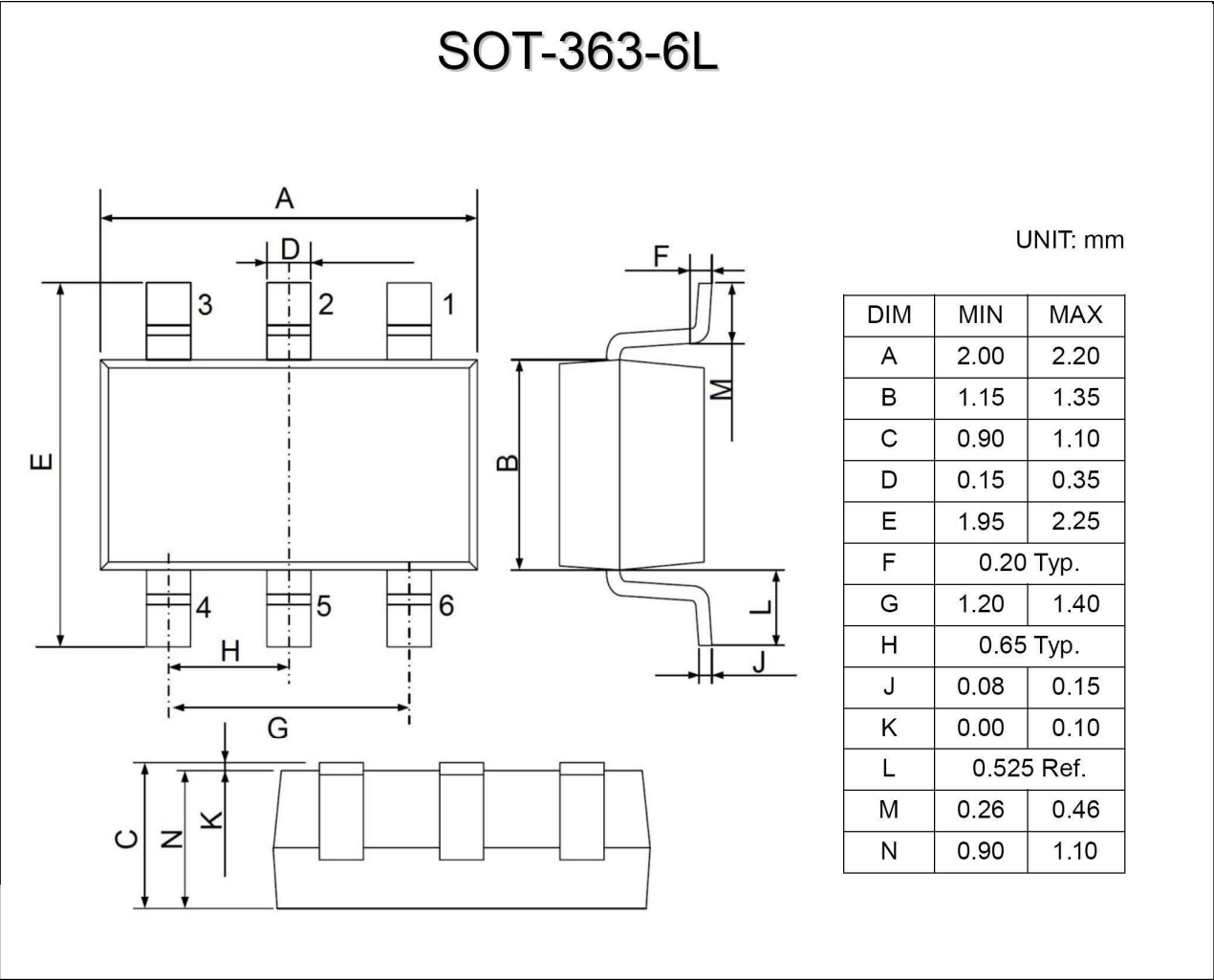
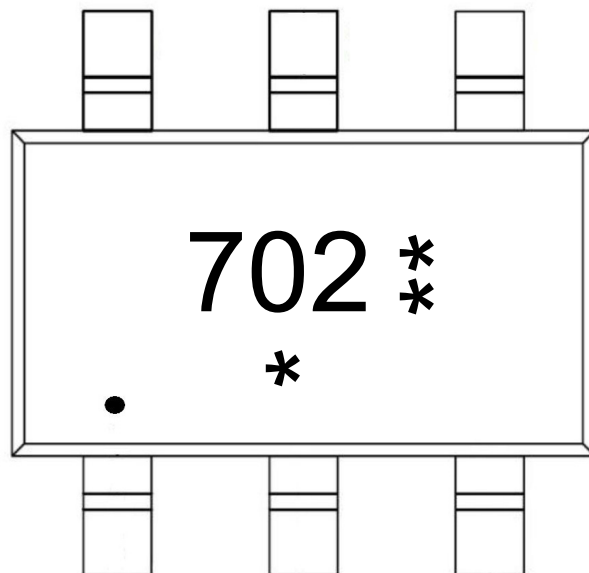


Figure 11 : Normalized Thermal Transient Impedance, Junction-to-Ambient

外形尺寸图 / Package Dimensions



印章说明 / Marking Instructions



说明：

●：为“1”脚

702：为型号代码

***：为生产批号代码，随生产批号变化

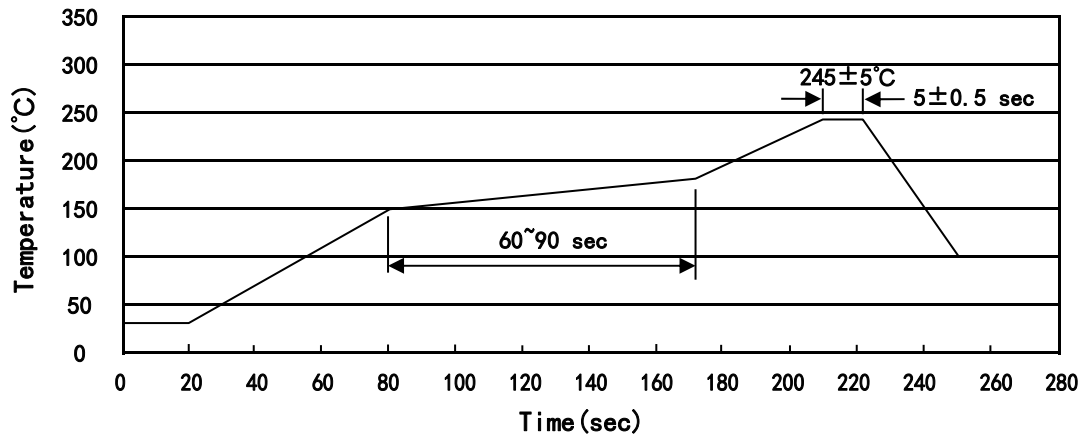
Note:

●：“1” Pin

702：Product Type Code

***：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 :
- 1、预热温度 150 ~ 180℃ , 时间 60 ~ 90sec;
 - 2、峰值温度 245±5℃ , 时间持续为 5±0.5sec;
 - 3、焊接制程冷却速度为 2 ~ 10℃/sec.
- Note:
- 1.Preheating:150~180℃, Time:60~90sec.
 - 2.Peak Temp.:245±5℃, Duration:5±0.5sec.
 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
SOT-363	3,000	10	30,000	6	180,000	7" ×8	180×120×180	390×385×205

使用说明 / Notices