

/ Descriptions

SOT-363 N MOS

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

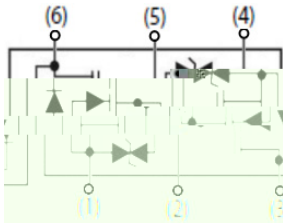
/ Features

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

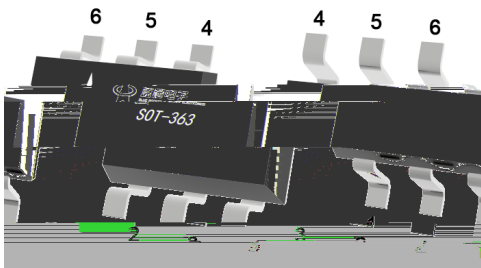
/ Applications

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

/ Equivalent Circuit



/ Pinning



PIN1 4 S PIN 2 5 G PIN 3 6 D

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	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	
Storage Temperature Range	T_{stg}	-55~150	
Maximum Junction-to-Ambient(Note 1)	$R_{\theta JA}(\text{Steady State})$	417	$^{\circ}\text{C/W}$
	$R_{\theta JA}(t \leq 5s)$	300	

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

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	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		

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	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		

/ Electrical Characteristic Curve

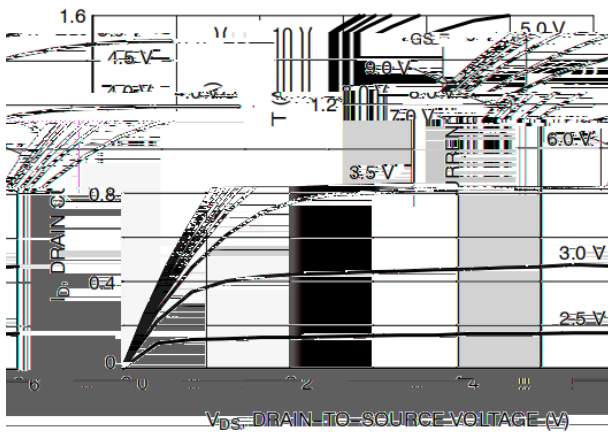


Figure 1. On-Region Characteristics

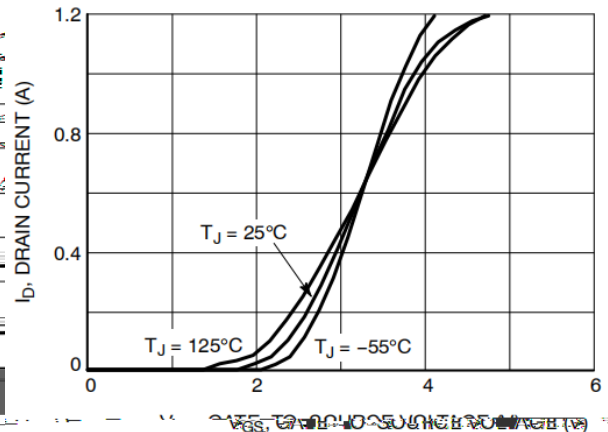
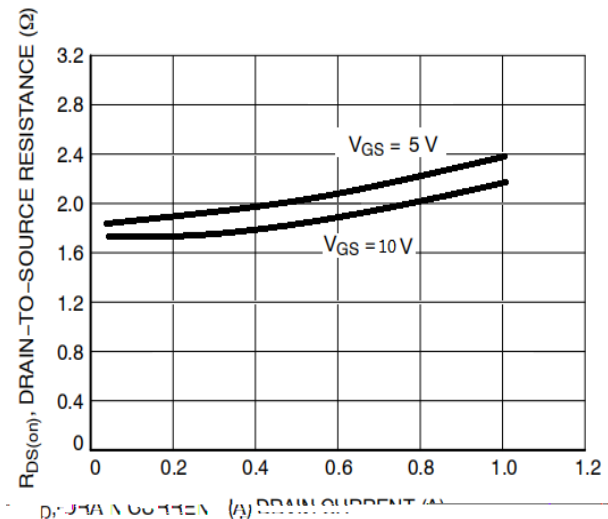


Figure 2. Transfer Characteristics



On-Resistance vs. Drain Current and Temperature

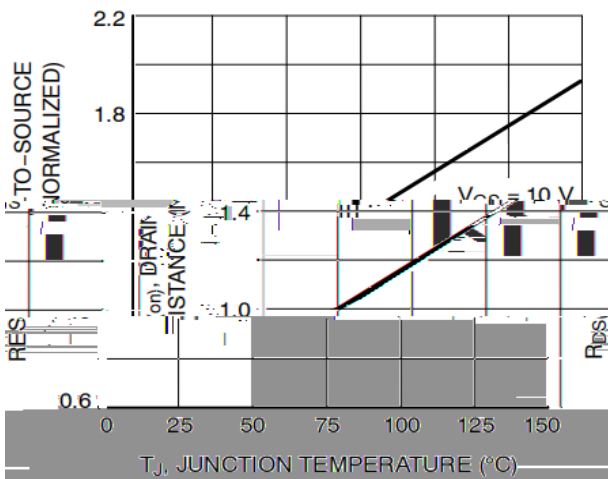


Figure 4 On-Resistance Variation with Temperature

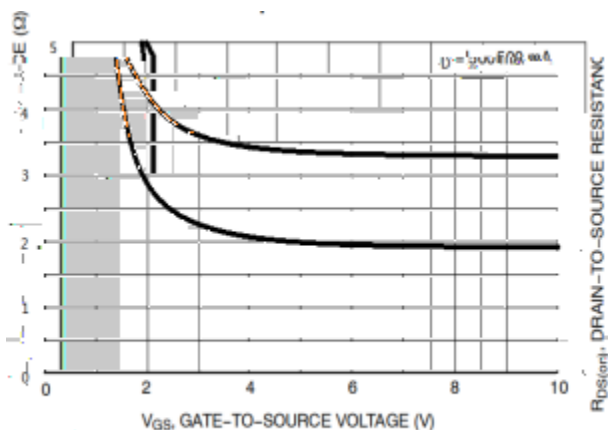


Figure 5. On-Resistance vs. Gate-to-Source Voltage

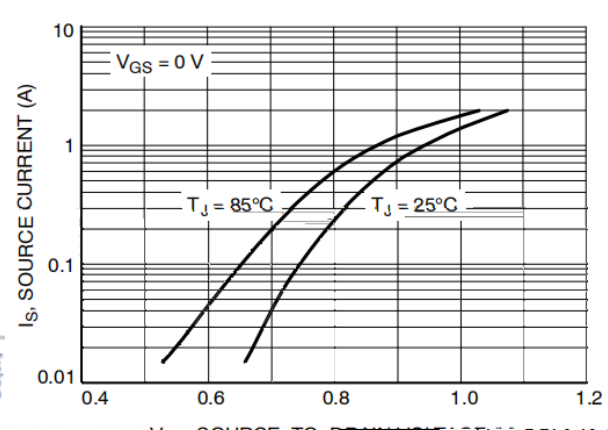


Figure 6 Diode Forward Voltage vs. Current

/ Electrical Characteristic Curve

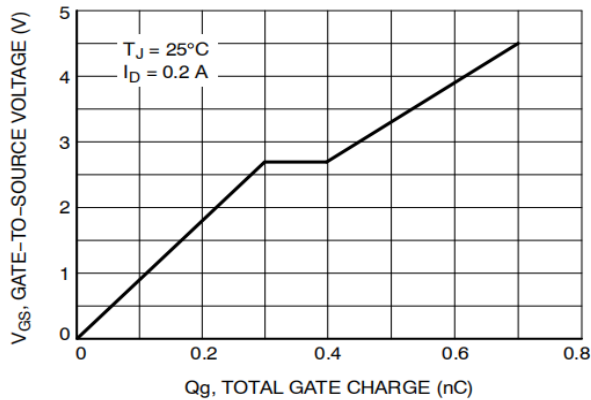


Figure 7 . Gate-to-Source and Drain-to-Source Voltage vs. Total Charge

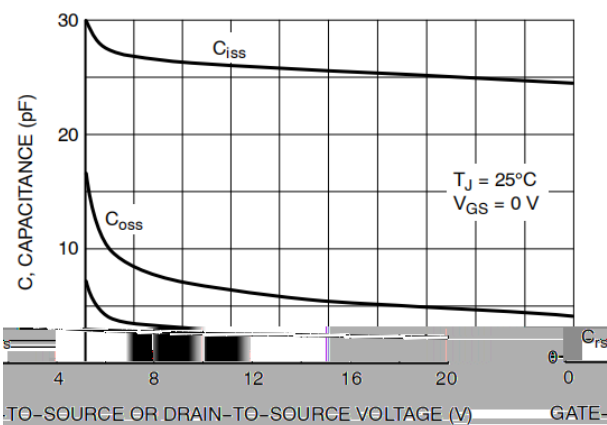


Figure 8. Capacitance Variation

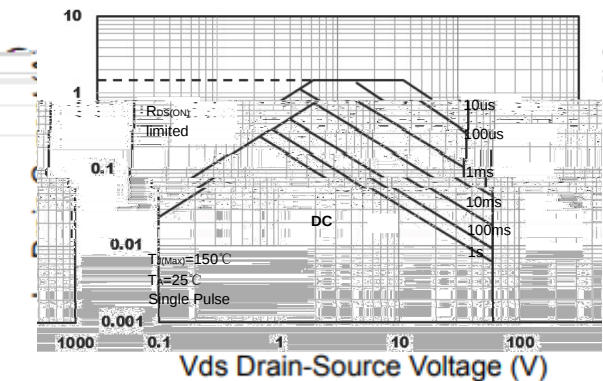


Figure 9 : Safe Operation Area

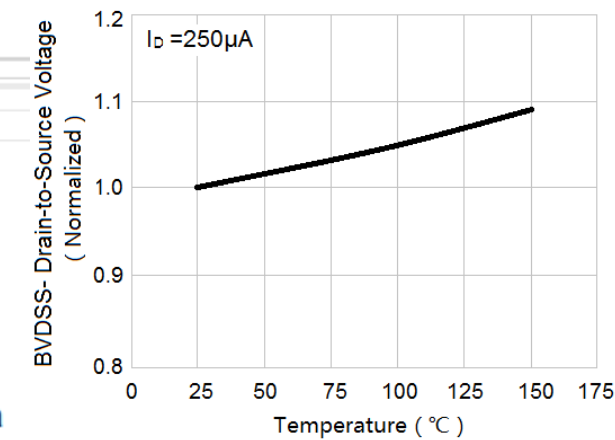
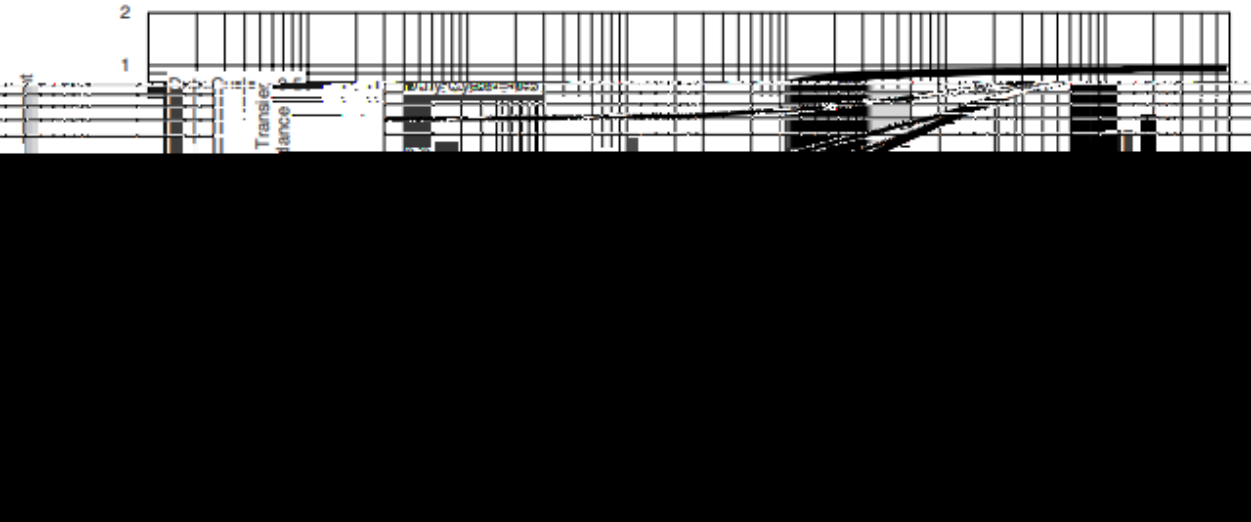
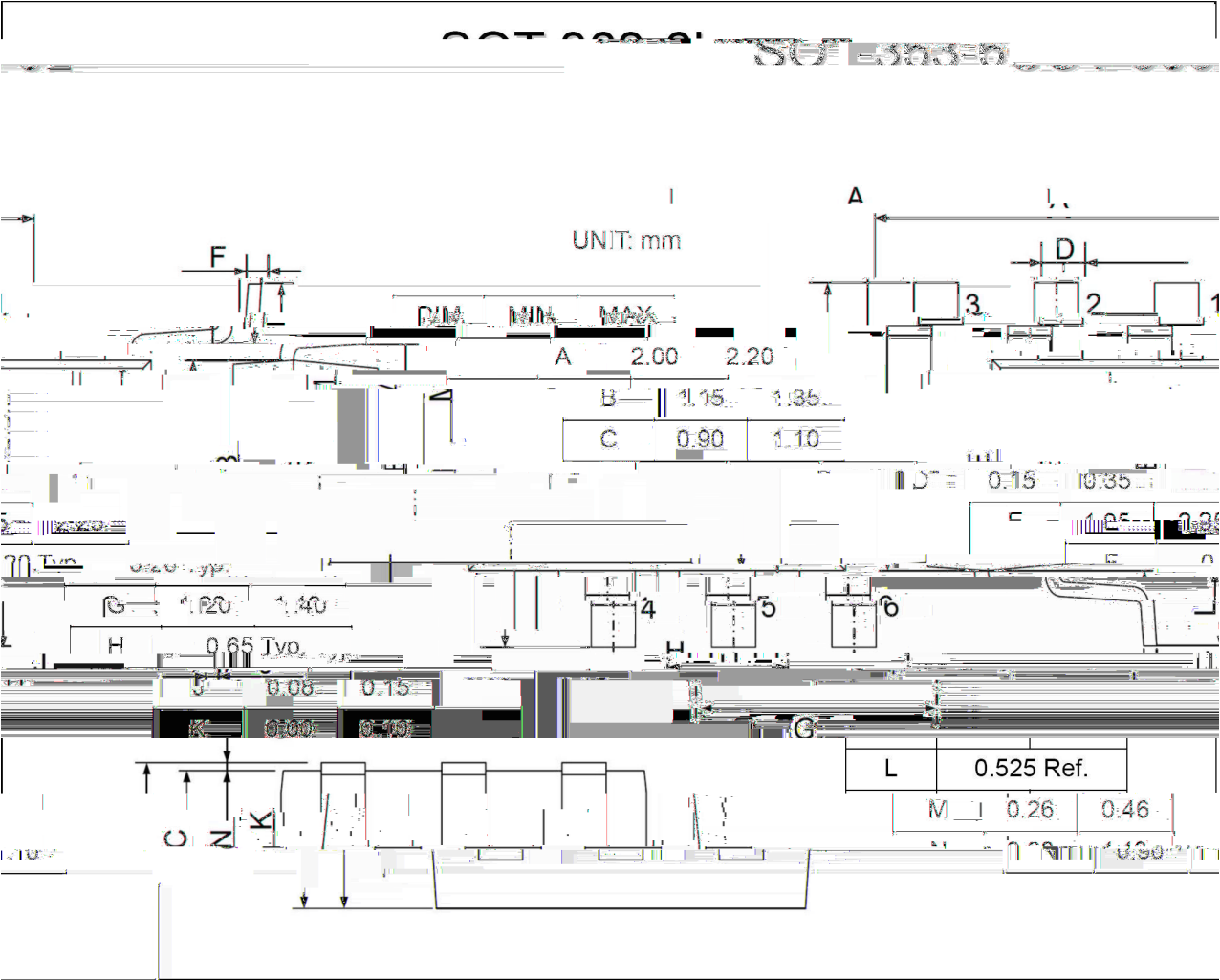


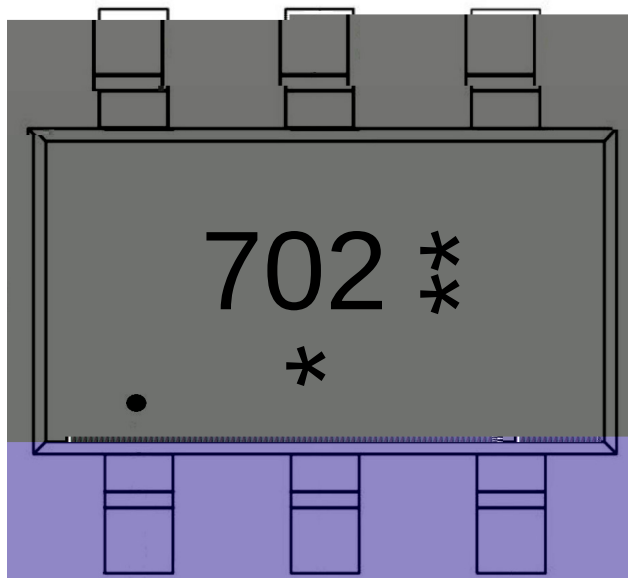
Figure 10 : Breakdown Voltage vs. Temperature



/ Package Dimensions



/ Marking Instructions



● “ 1 ”

702

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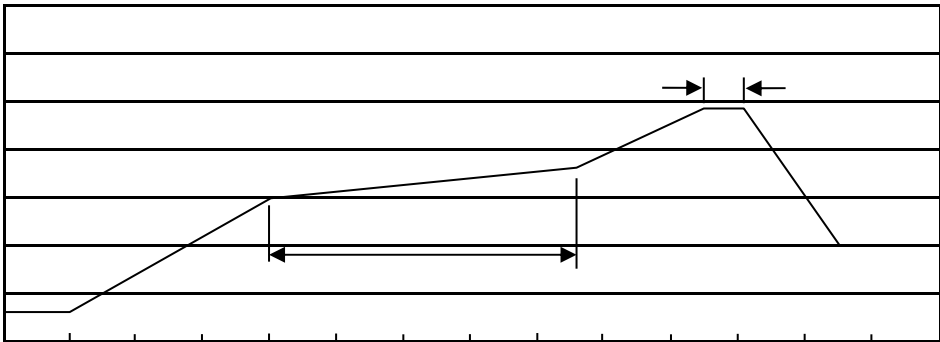
Note:

● “ 1 ” Pin

702 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

Time:10±1 sec

/ Packaging SPEC.

/ 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

/ Notices