

/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	60	V
Drain-Gate Voltage	V_{DGR}	60	V
Drain Current - Continuous	I_D Ta=25	300	mA
	I_D Ta=85	210	
Drain Current - Pulsed(Note 1)	I_{DM}	1200	mA
Gate-Source Voltage - Continuous	V_{GS}	± 20	V
Power Dissipation	P_D	350	mW
Junction Temperature Range	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	
Maximum Junction-to-Ambient(Note 2)	$R_{JA}(\text{Steady State})$	300	/W
	$R_{JA}(t \leq 5s)$	92	

Note 1) Pulse Width 10us, Duty Cycle 1%

Note 2) Surface-mounted on FR4 board using 1 sq in pad size with 1 oz Cu

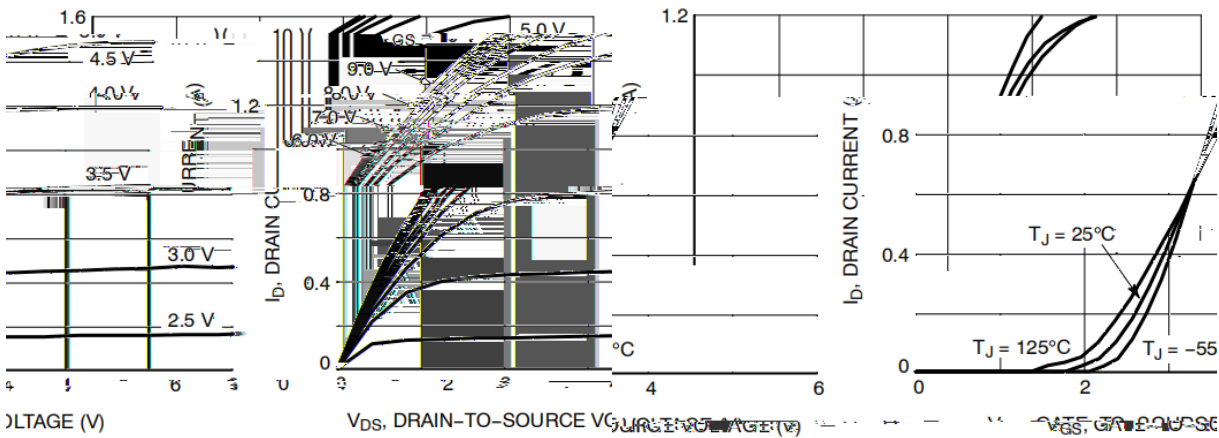
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DS}	$V_{GS}=0$ $I_D=250\mu A$	60			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{GS}=0$ $V_{DS}=60V$			1.0	μA
Gate-Source Leakage current	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	1.5	2.5	V
Forward Transconductance	Y_{fs}	$V_{DS}=10V$ $I_D=0.2A$	80			mS
Input Capacitance	C_{iss}	$V_{GS}=0V$, $f=1MHz$, $V_{DS}=20V$			50	pF
Output Capacitance	C_{oss}				25	
Reverse Transfer Capacitance	C_{rss}				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		

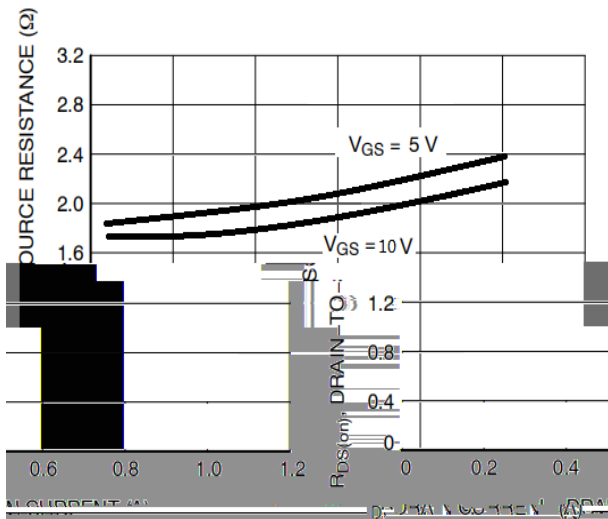
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(ON)}$	$V_{GS}=10V, \quad V_{DD}=25V,$ $I_D=500mA, \quad R_G=25$		35		ns
Rise Time	t_r			75		
Turn-Off Delay Time	$t_{d(OFF)}$			305		
Fall Time	t_f			260		

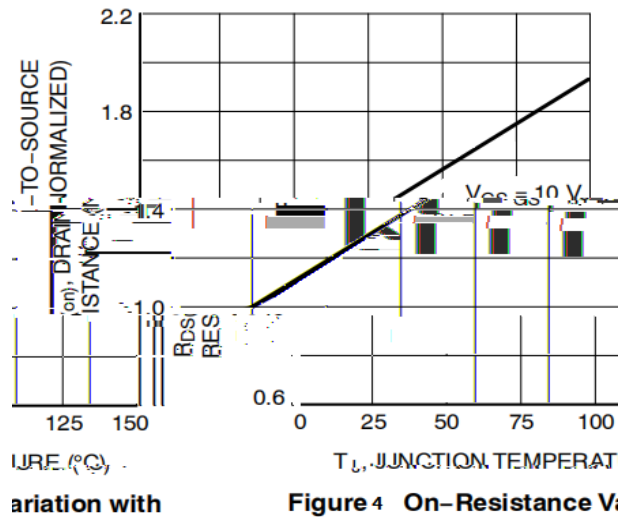
/ Electrical Characteristic Curve



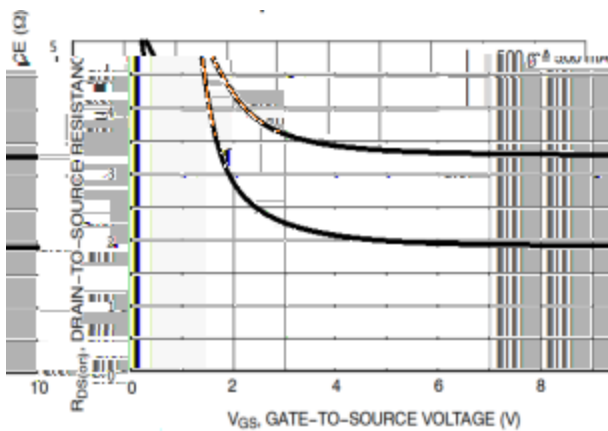
Characteristics



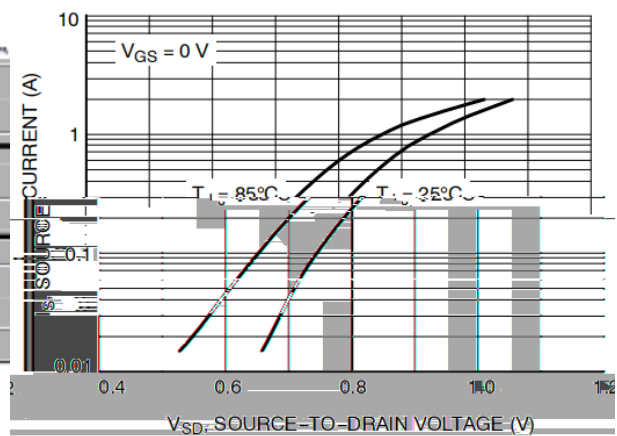
Current and



On-Resistance vs. Temperature



On-Resistance vs. Gate-to-Source Voltage



Diode Forward Voltage vs. Current

/ Electrical Characteristic Curve

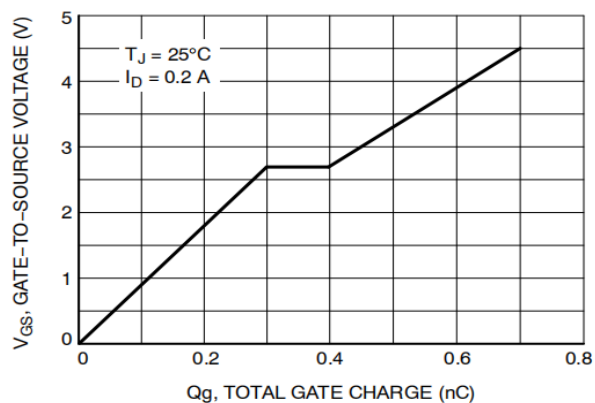


Figure 7 . Gate-to-Source and Drain-to-Source Voltage vs. Total Charge

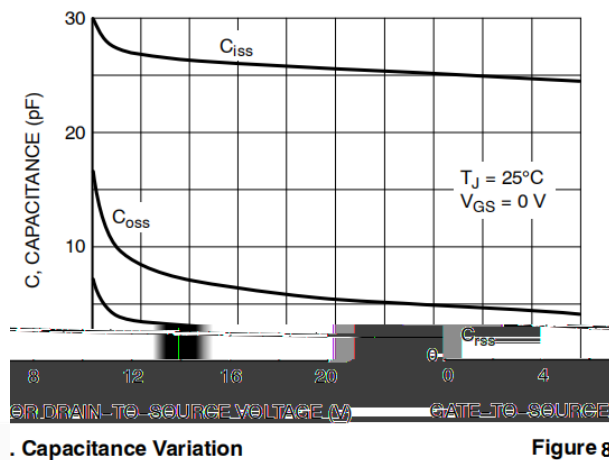


Figure 8

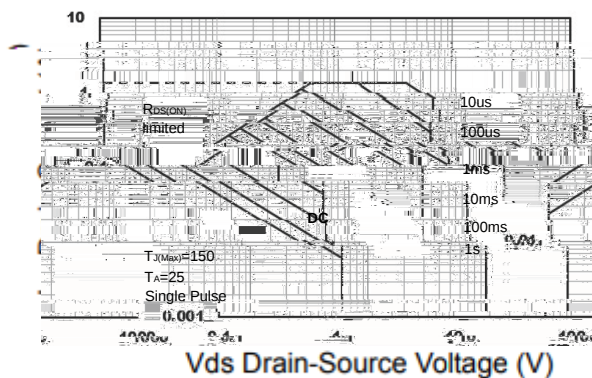


Figure 9 : Safe Operation Area

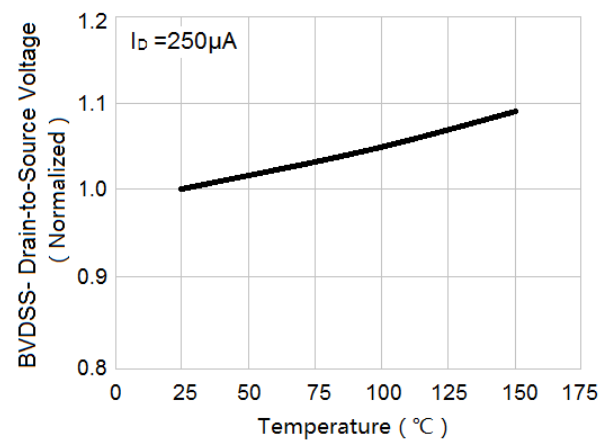


Figure 10 : Breakdown Voltage vs. Temperature

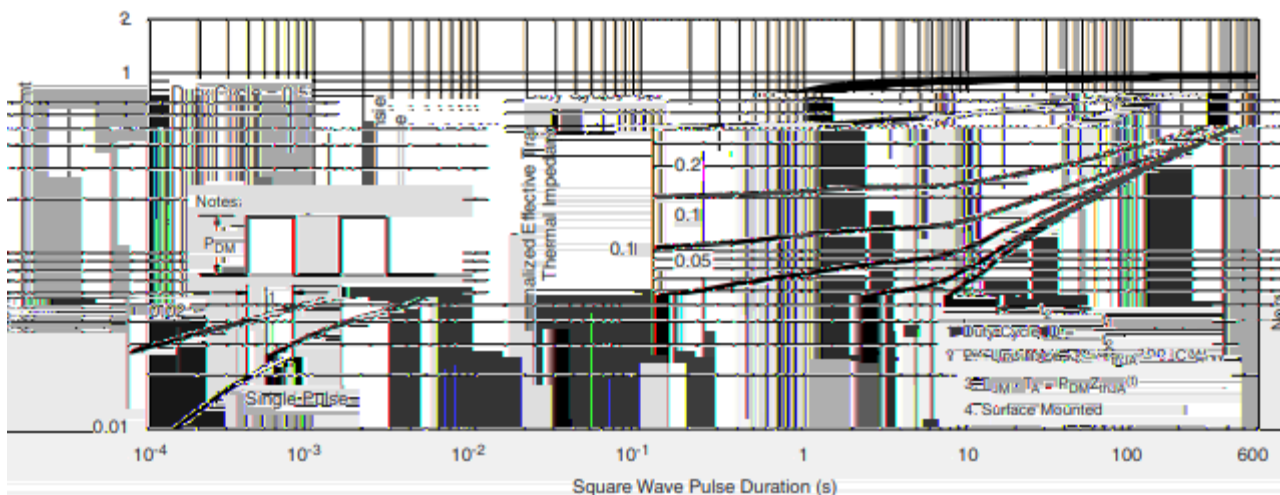
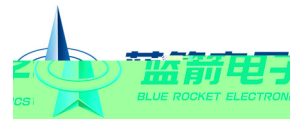


Figure 11 : Normalized Thermal Transient Impedance, Junction-to-Ambient

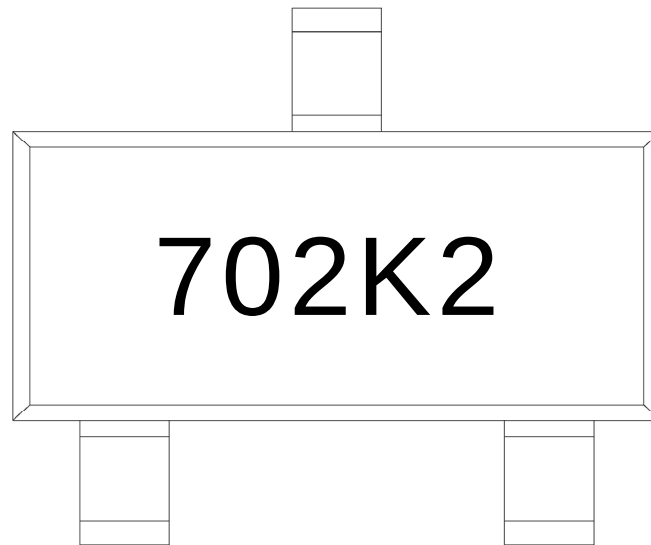
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DATA SHEET

/ Marking Instructions

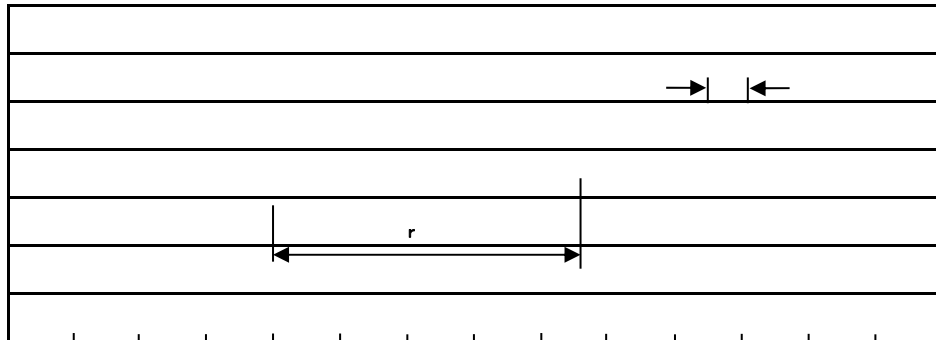


702K2

Note:

702K2: Product Type Code

() / 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)		
	只 卷盘	卷盘 盒	只 盒	盒 箱	只 箱		盒	箱
SOT-23	3,000	10	30,000	6	180,000	7 ×8	180×120×180	390×385×205

/ Notices