

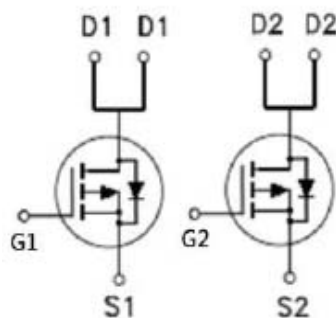
Dual P-Channel MOSFET

2KJ7102DFN

■ Features

- $V_{DS} (V) = -20V, I_D = -30A$
- $R_{DS(ON)} \leq 20m\Omega @ V_{GS} = -10V$
- Optimized Gate Charge to Minimize Switching Losses

PDFN3.3x3.3-8

■ Absolute Maximum Ratings ($T_A = 25^\circ C$ Unless otherwise noted)

Parameter	Symbol	Rating	Unit	
Drain-Source Voltage	V_{DS}	-20	V	
Gate-Source Voltage	V_{GS}	± 12		
Continuous Drain Current	I_D	$T_C = 25^\circ C$	A	
		$T_C = 100^\circ C$		
		$T_A = 25^\circ C$		
		$T_A = 70^\circ C$		
Pulsed Drain Current (Note 1)	I_{DM}	-40		
Avalanche Current	I_{AS}	-21.5		
Avalanche Energy	$L = 0.1mH$	EAS	23	mJ
Power Dissipation (Note 3)	P_D	$T_C = 25^\circ C$	W	
		$T_C = 100^\circ C$		
		$T_A = 25^\circ C$		
		$T_A = 70^\circ C$		
Thermal Resistance, Junction- to-Ambient (Note 2)	$R_{\theta JA}$	$t \leq 10s$	50	$^\circ C/W$
		Steady-State	72	
Thermal Resistance, Junction- to-Case	Steady-State	$R_{\theta JC}$	4.3	
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150	$^\circ C$	

Notes:

1. Pulse width limited by maximum junction temperature.
2. The value of $R_{\theta JA}$ is measured with the device mounted on $1in^2$ FR-4 board with 2oz. Coppe.
3. The Power dissipation is based on $R_{\theta JA} t \leq 10s$ value.

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■ Electrical Characteristics (T_J = 25°C Unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	V _{DSS}	I _D =-250μA, V _{GS} =0V	-20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-16V, V _{GS} =0V			-1	μA
		V _{DS} =-10V, V _{GS} =0V, T _J = 55°C			-10	
Gate-Body Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±12V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-0.65		-1.2	V
Static Drain-Source On-Resistance (Note 1)	R _{DS(on)}	V _{GS} =-10V, I _D =-2.5A			20	mΩ
		V _{GS} =-4.5V, I _D =-2.5A			25	
		V _{GS} =-2.5V, I _D =-2A			35	
Forward Transconductance (Note 1)	g _{FS}	V _{DS} =-10V, I _D =-2.5A		17		S
Dynamic						
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-10V, f=1MHz		1275		pF
Output Capacitance	C _{oss}			179		
Reverse Transfer Capacitance	C _{rss}			161		
Gate Resistance	R _g	V _{GS} = 0V, V _{DS} = 0V, f = 1MHz		9.5		Ω
Total Gate Charge	Q _g	V _{DS} =-10V, I _D =-2.5A, V _{GS} = -4.5V		33		nC
Gate Source Charge	Q _{gs}			1.5		
Gate Drain Charge	Q _{gd}			4.7		
Turn-On Delay Time	t _{d(on)}	V _{DD} =-10V, I _D =-2.5A, V _{GEN} = -10 V, R _G = 6 Ω		10		ns
Turn-On Rise Time	t _r			24		
Turn-Off Delay Time	t _{d(off)}			60		
Turn-Off Fall Time	t _f			153		
Source-Drain diode ratings and characteristics (T_J = 25 °C)						
Body-Diode Continuous Current (Note 3)	I _S				-24	A
Diode Forward Voltage (Note 1)	V _{SD}	I _F =-2.5 A, V _{GS} =0V			-1.2	V
Reverse Recovery Time	t _{rr}	I _F = -2.5A, di _F /dt = 100A /μS		13		nS
Reverse Recovery Charge	Q _{rr}				5.5	

Notes:

1. Pulse test : Pulse Width ≤ 300μsec, Duty Cycle ≤ 2%.
2. Independent of operating temperature.
3. Package limitation current is -9A.

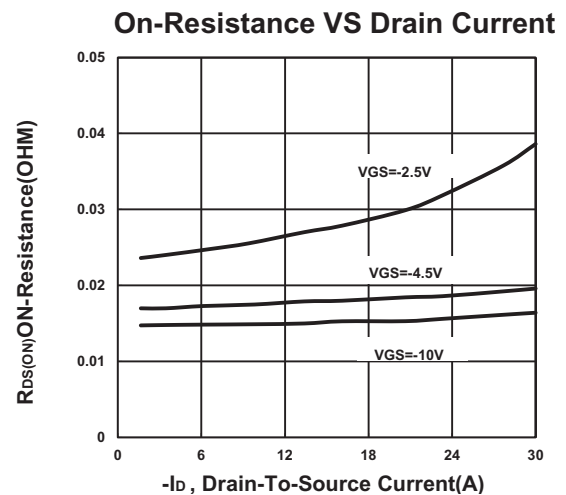
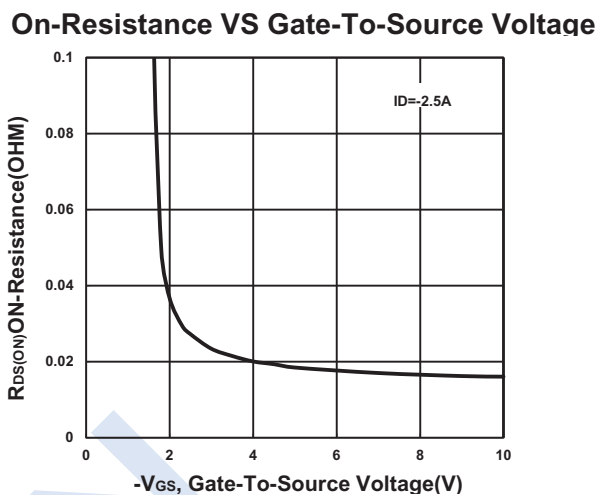
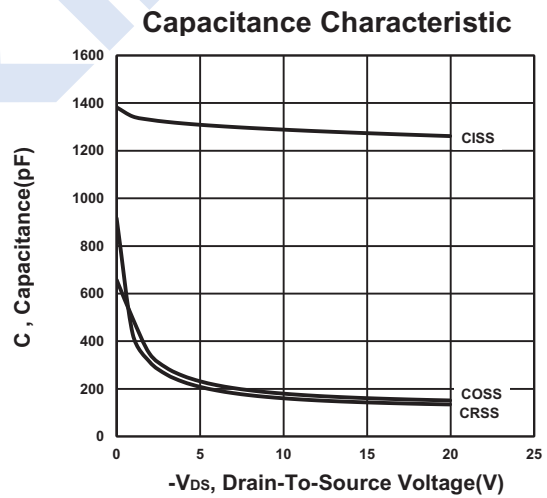
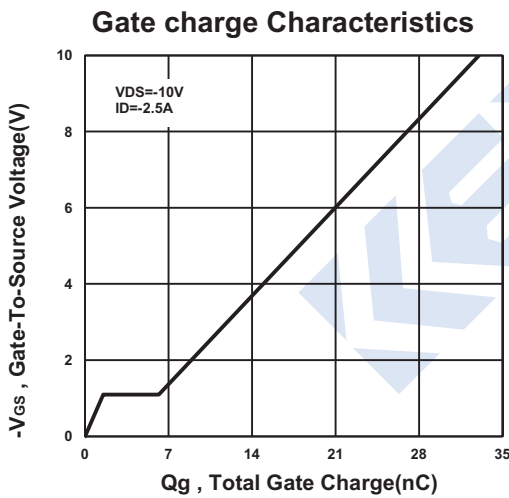
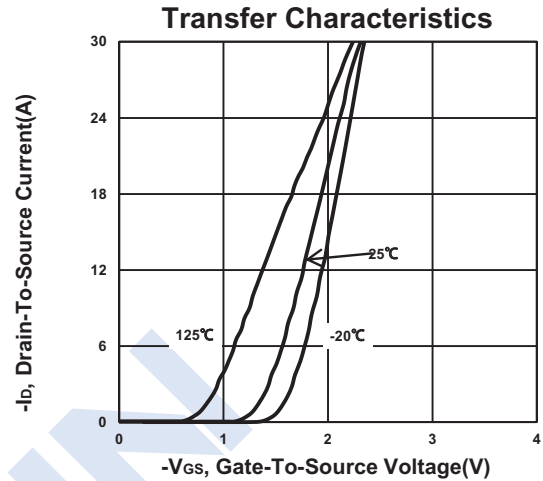
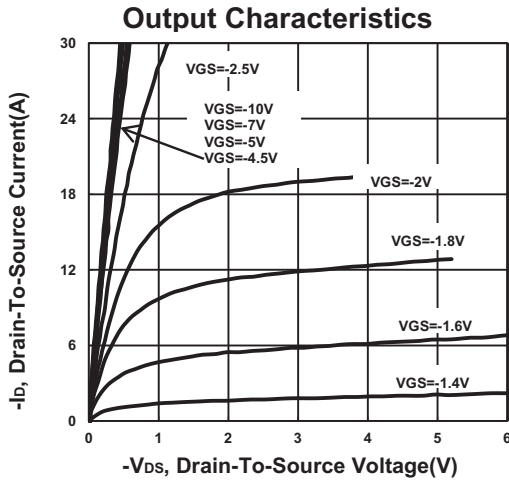
■ Marking

Marking	J7102 KA****
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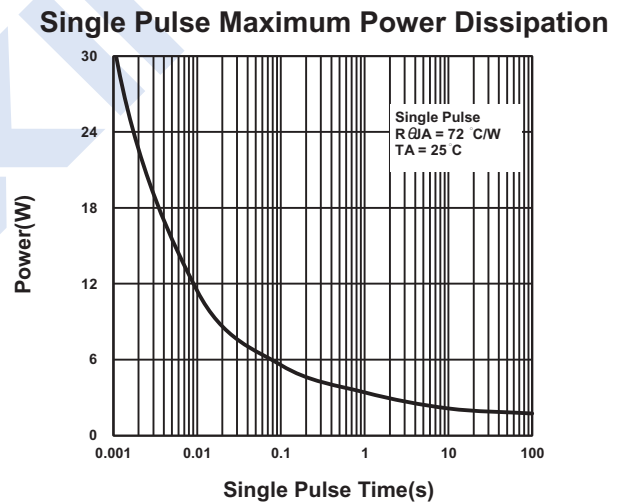
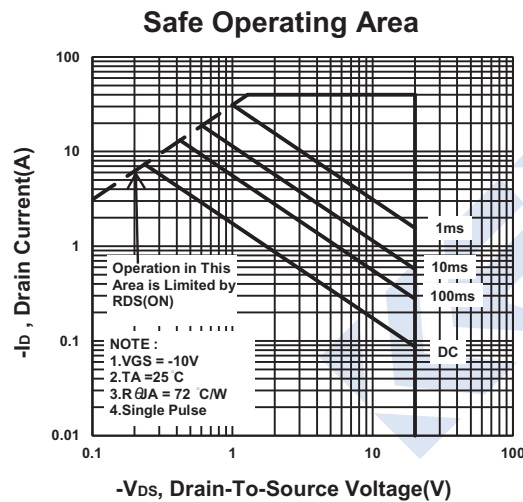
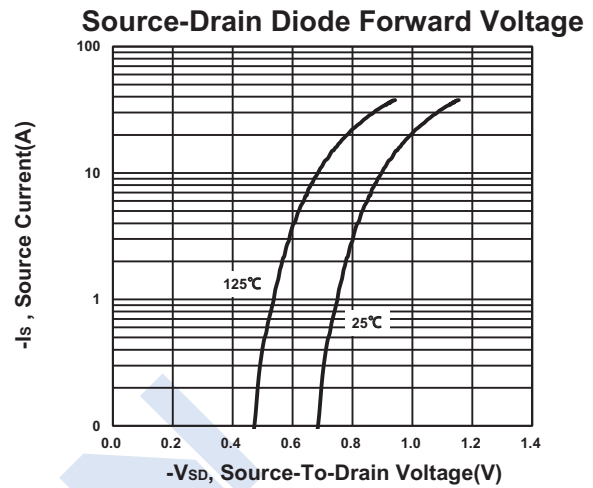
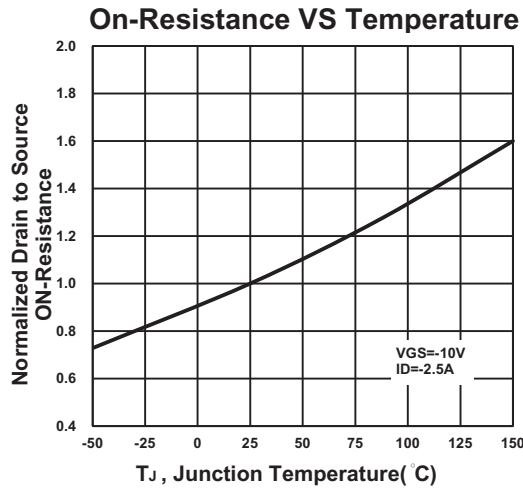
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■ Typical Characteristics (T_J = 25 °C unless otherwise noted)

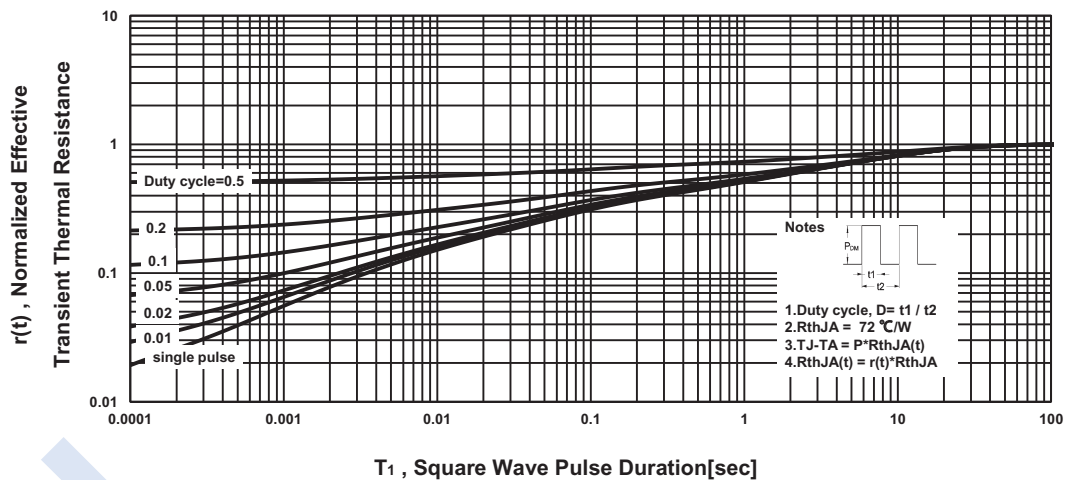


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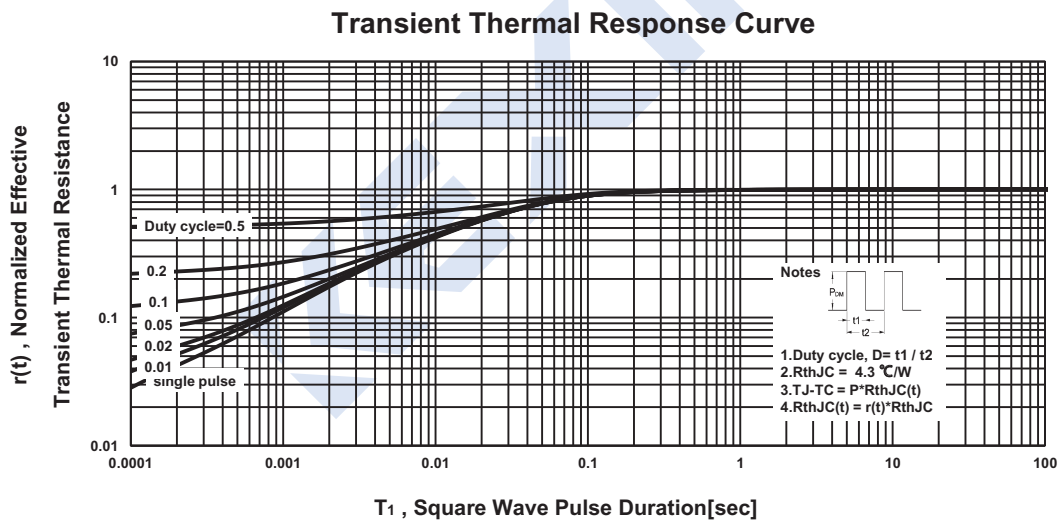
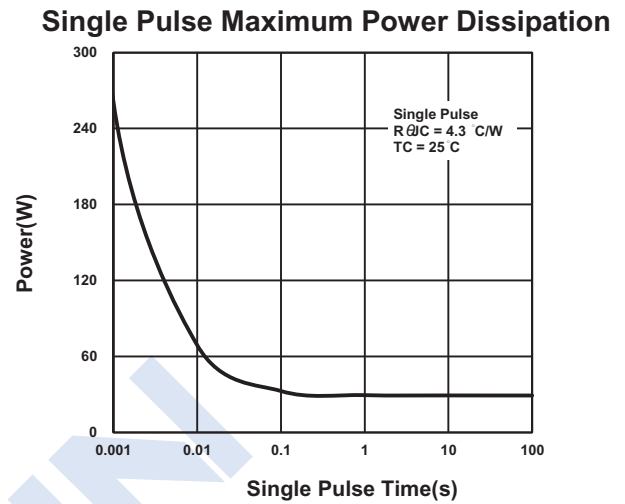
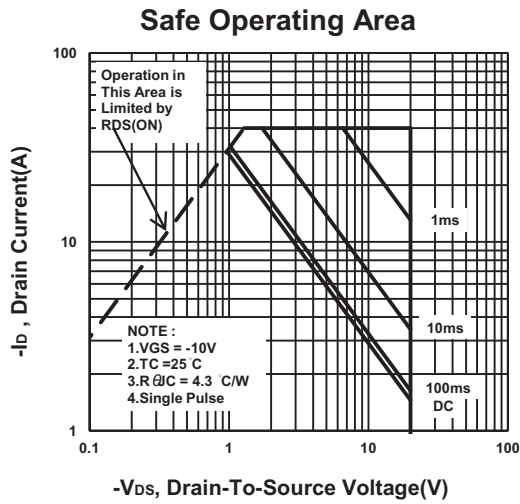


Transient Thermal Response Curve



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■ PDFN3.3x3.3-8 Package Outline Dimensions

