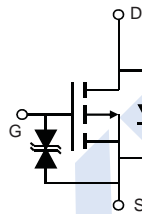
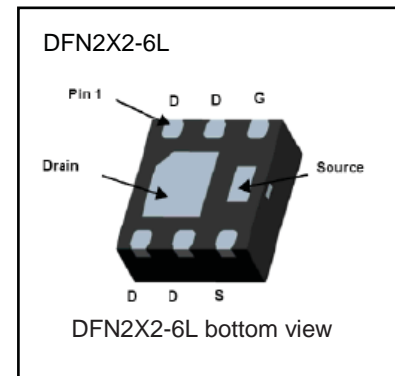


## P-channel MOSFET

## 2KJ7107DFN

## ■ Features

- $V_{DS}$  (V) = -20V
- $I_D$  = -6.0A
- Low threshold voltage
- Very fast switching
- Trench MOSFET technology
- 2 kV ElectroStatic Discharge (ESD) protection

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

Parameter	Symbol	Rating	Unit	
Drain-Source Voltage	$V_{DS}$	-20	V	
Gate-Source Voltage	$V_{GS}$	$\pm 8$		
Continuous Drain Current, $t \leq 5$ s <sup>*1</sup>	$I_D$	-6.0	A	
Pulsed Drain Current ( $t_p \leq 10\mu\text{s}$ )	$I_{DM}$	-14.4		
Power Dissipation	$P_D$	1210	mW	
		515		
Electrostatic Discharge Voltage <sup>*3</sup>	$V_{ESD}$	2000	V	
Thermal Resistance, Junction- to-Ambient	$R_{\theta JA}$	in free air <sup>*2</sup>	244	$^\circ\text{C}/\text{W}$
		in free air <sup>*1</sup>	104	
		in free air; $t \leq 5$ s <sup>*1</sup>	64	
Junction Temperature	$T_J$	150	$^\circ\text{C}$	
Junction Storage Temperature Range	$T_{stg}$	-55 to 150		

\*1. Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated, mounting pad for drain  $6\text{ cm}^2$ .

\*2. Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated and standard footprint.

\*3. HBM; C = 100 pF; R = 1.5 k $\Omega$ ; Measured between all pins.

## P-channel MOSFET

## 2KJ7107DFN

■ Electrical Characteristics ( $T_A = 25^\circ\text{C}$  Unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{DSS}$	$I_D = -10\mu\text{A}$ , $V_{GS} = 0\text{V}$	-20			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = -20\text{V}$ , $V_{GS} = 0\text{V}$			-1	$\mu\text{A}$
		$V_{DS} = -20\text{V}$ , $V_{GS} = 0\text{V}$ , $T_J = 150^\circ\text{C}$			-10	
Gate-Body Leakage Current	$I_{GSS}$	$V_{DS} = 0\text{V}$ , $V_{GS} = \pm 8\text{V}$			$\pm 10$	$\mu\text{A}$
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$ , $I_D = -250\mu\text{A}$	-0.45		-0.95	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = -4.5\text{V}$ , $I_D = -2\text{A}$		28	40	m $\Omega$
		$V_{GS} = -4.5\text{V}$ , $I_D = -2\text{A}$ , $T_J = 150^\circ\text{C}$			65	
		$V_{GS} = -2.5\text{V}$ , $I_D = -1.5\text{A}$		42	65	
		$V_{GS} = -1.8\text{V}$ , $I_D = -1\text{A}$		63	100	
Forward Transconductance	$g_{FS}$	$V_{DS} = -10\text{V}$ , $I_D = -2\text{A}$		9		S
Input Capacitance	$C_{iss}$	$V_{GS} = 0\text{V}$ , $V_{DS} = -10\text{V}$ , $f = 1\text{MHz}$		804		pF
Output Capacitance	$C_{oss}$			95		
Reverse Transfer Capacitance	$C_{rss}$			66		
Total Gate Charge	$Q_g$	$V_{DS} = -10\text{V}$ , $I_D = -2\text{A}$ , $V_{GS} = -4.5\text{V}$		6.3	9.5	nC
Gate Source Charge	$Q_{gs}$			1.2		
Gate Drain Charge	$Q_{gd}$			0.9		
Turn-On Delay Time	$t_{d(on)}$	$V_{DS} = -10\text{V}$ , $I_D = -2\text{A}$ , $V_{GS} = -4.5\text{V}$ , $R_{G(ext)} = 6\Omega$		7		ns
Turn-On Rise Time	$t_r$			15		
Turn-Off Delay Time	$t_{d(off)}$			41		
Turn-Off Fall Time	$t_f$			14		
Maximum Body-Diode Continuous Current	$I_S$				-1.3	A
Diode Forward Voltage	$V_{SD}$	$I_{SD} = -0.5\text{A}$ , $V_{GS} = 0\text{V}$			-1.2	V

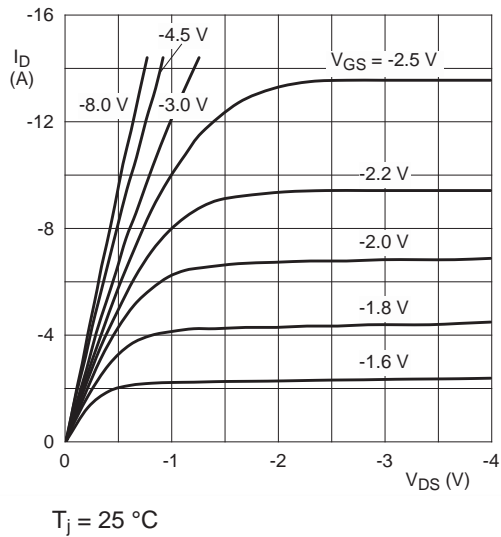
## ■ Marking

Marking	JAN
---------	-----

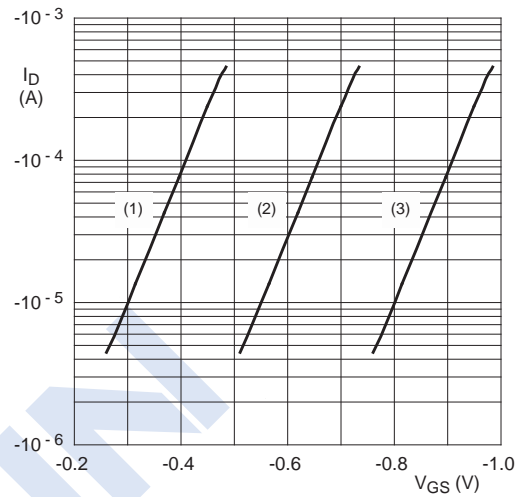
## P-channel MOSFET

### 2KJ7107DFN

■ Typical Characteristics

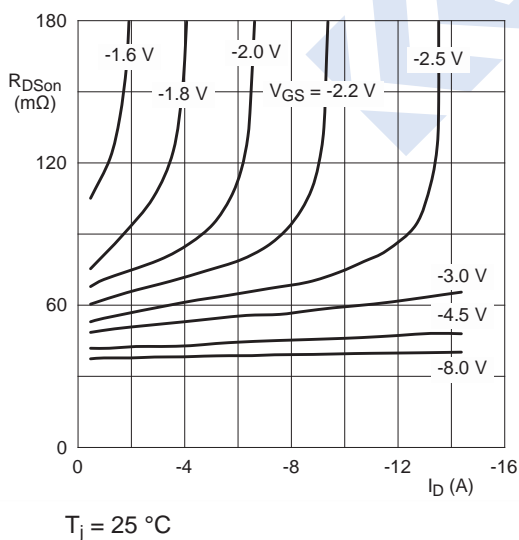


**Fig. 1. Output characteristics: drain current as a function of drain-source voltage; typical values**

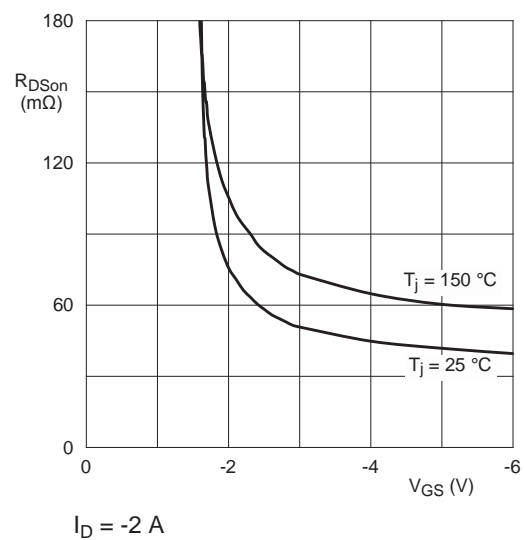


(1) minimum values  
(2) typical values  
(3) maximum values

**Fig. 2. Sub-threshold drain current as a function of gate-source voltage**



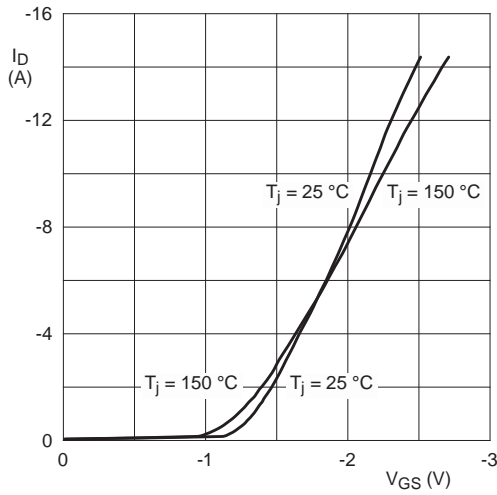
**Fig. 3. Drain-source on-state resistance as a function of drain current; typical values**



**Fig. 4. Drain-source on-state resistance as a function of gate-source voltage; typical values**

### P-channel MOSFET

### 2KJ7107DFN



$$V_{DS} > I_D \times R_{DSon}$$

Fig. 5. Transfer characteristics: drain current as a function of gate-source voltage; typical values

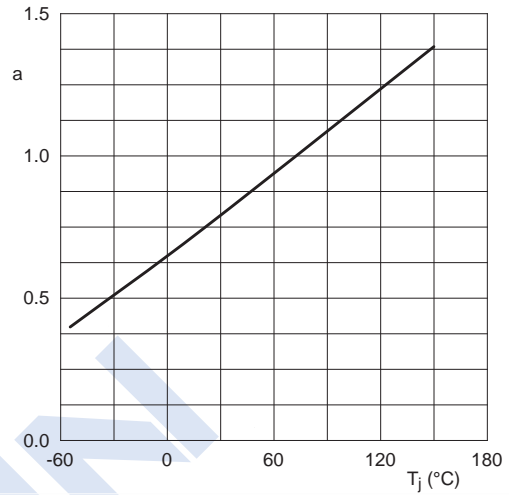
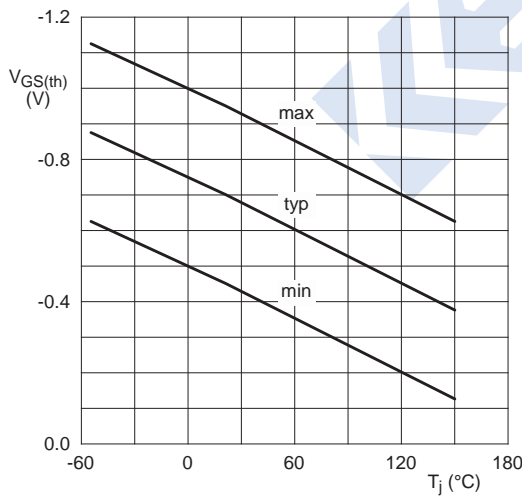


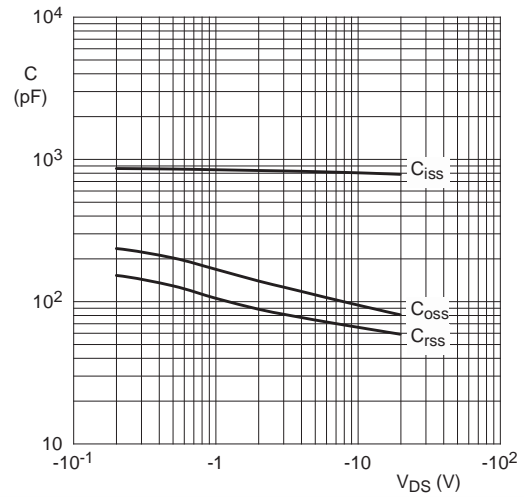
Fig. 6. Normalized drain-source on-state resistance as a function of junction temperature; typical values

$$a = \frac{R_{DSon}}{R_{DSon(25^\circ C)}}$$



$$I_D = -0.25 \text{ mA}; V_{DS} = V_{GS}$$

Fig. 7. Gate-source threshold voltage as a function of junction temperature



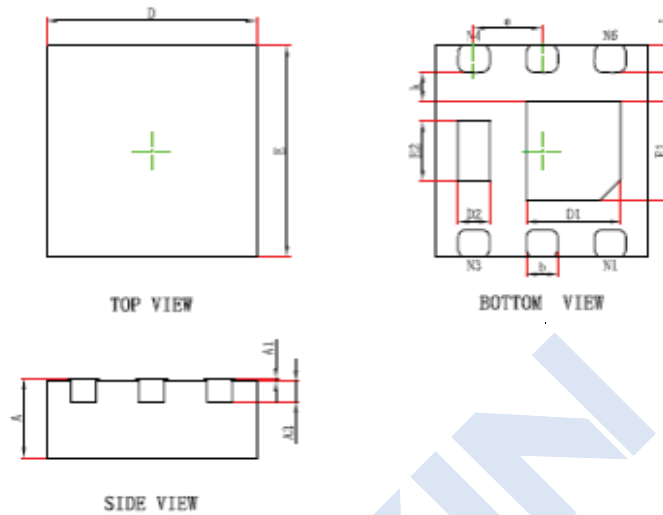
$$f = 1 \text{ MHz}; V_{GS} = 0 \text{ V}$$

Fig. 8. Input, output and reverse transfer capacitances as a function of drain-source voltage; typical values

## P-channel MOSFET

## 2KJ7107DFN

## ■ DFN2X2-6L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.800	0.028	0.031
A1	0.000	0.050	0.000	0.002
A3	0.203REF.		0.008REF.	
D	1.924	2.076	0.076	0.082
E	1.924	2.076	0.076	0.082
D1	0.800	1.000	0.031	0.039
E1	0.850	1.050	0.033	0.041
D2	0.200	0.400	0.008	0.016
E2	0.460	0.660	0.018	0.026
k	0.200MIN.		0.008MIN.	
b	0.250	0.350	0.010	0.014
e	0.650TYP.		0.026TYP.	
L	0.174	0.326	0.007	0.013

## Notes

1. All dimensions are in millimeters.
2. Tolerance  $\pm 0.10\text{mm}$  (4 mil) unless otherwise specified
3. Package body sizes exclude mold flash and gate burrs. Mold flash at the non-lead sides should be less than 5 mils.
4. Dimension L is measured in gauge plane.
5. Controlling dimension is millimeter, converted inch dimensions are not necessarily exact.

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [MOSFET](#) category:*

*Click to view products by [KEXIN](#) manufacturer:*

Other Similar products are found below :

[614233C](#) [648584F](#) [MCH3443-TL-E](#) [MCH6422-TL-E](#) [FDPF9N50NZ](#) [FW216A-TL-2W](#) [FW231A-TL-E](#) [APT5010JVR](#) [NTNS3A92PZT5G](#)  
[IRF100S201](#) [JANTX2N5237](#) [2SK2464-TL-E](#) [2SK3818-DL-E](#) [FCA20N60\\_F109](#) [FDZ595PZ](#) [STD6600NT4G](#) [FSS804-TL-E](#) [2SJ277-DL-E](#)  
[2SK1691-DL-E](#) [2SK2545\(Q,T\)](#) [D2294UK](#) [405094E](#) [423220D](#) [MCH6646-TL-E](#) [TPCC8103,L1Q\(CM](#) [367-8430-0972-503](#) [VN1206L](#)  
[424134F](#) [026935X](#) [051075F](#) [SBVS138LT1G](#) [614234A](#) [715780A](#) [NTNS3166NZT5G](#) [751625C](#) [873612G](#) [IRF7380TRHR](#)  
[IPS70R2K0CEAKMA1](#) [RJK60S3DPP-E0#T2](#) [RJK60S5DPK-M0#T0](#) [APT5010JVFR](#) [APT12031JFLL](#) [APT12040JVR](#) [DMN3404LQ-7](#)  
[NTE6400](#) [JANTX2N6796U](#) [JANTX2N6784U](#) [JANTXV2N5416U4](#) [SQM110N05-06L-GE3](#) [SIHF35N60E-GE3](#)