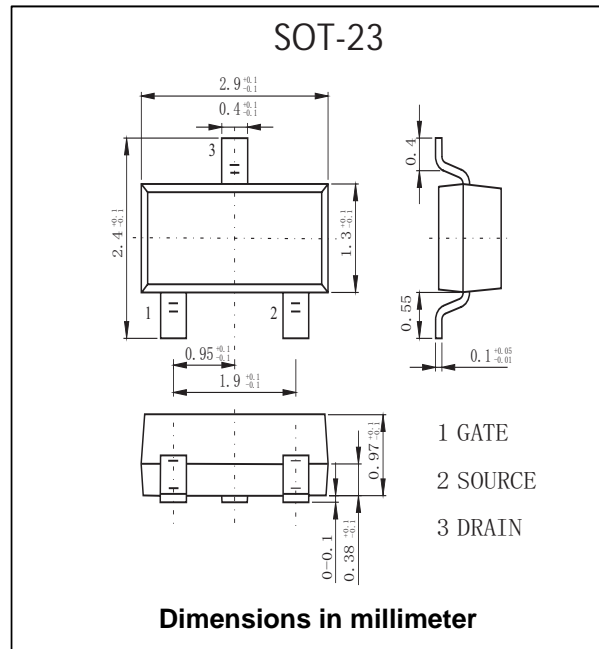
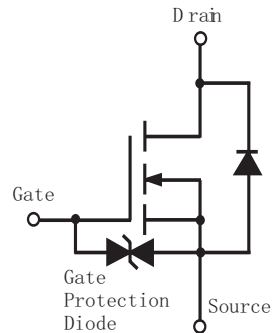


## N-Channel Enhancement MOSFET

### 2N7002K

#### ■ Features

- Low On-Resistance:  $R_{DS(on)}$
- Low Gate Threshold Voltage
- Low Input Capacitance
- Fast Switching Speed
- Low Input/Output Leakage
- ESD Protected 2KV HBM



#### ■ Absolute Maximum Ratings $T_a=25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	60	V
Gate-Source Voltage -Continuous	$V_{GS}$	$\pm 20$	
Drain Current	$I_D$	-Continuous ( Note:1)	300
		-Pulsed	800
Power Dissipation (Note 1)	$P_D$	350	mW
Thermal Resistance.Junction- to-Ambient	$R_{thJA}$	357	$^\circ\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Junction and Storage Temperature Range	$T_{stg}$	-55 to 150	

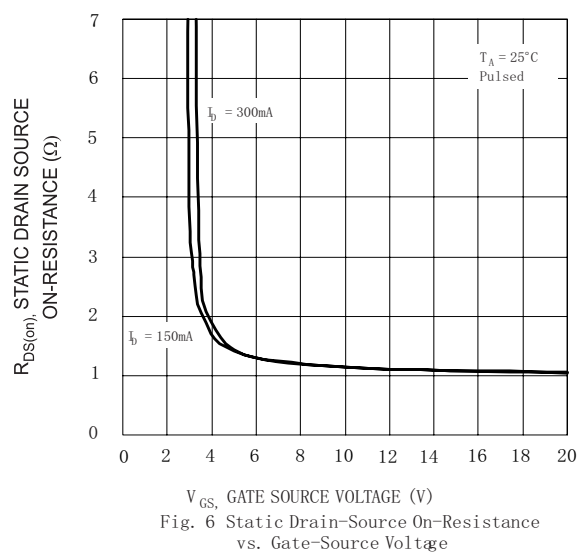
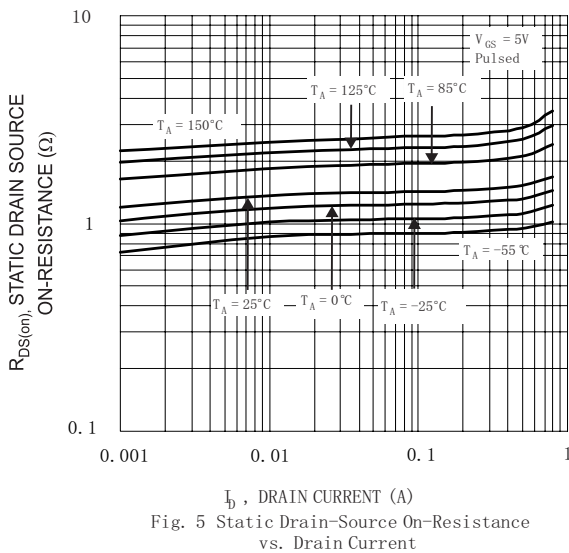
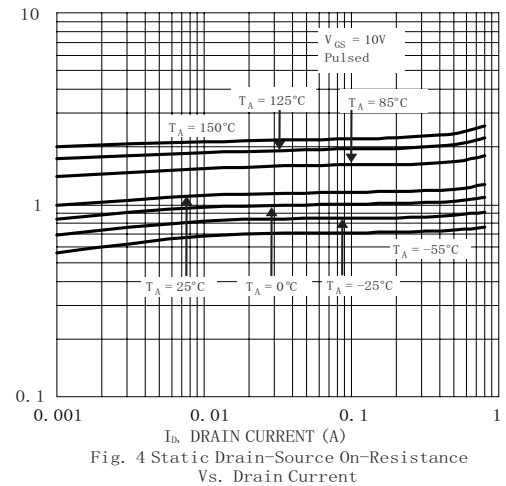
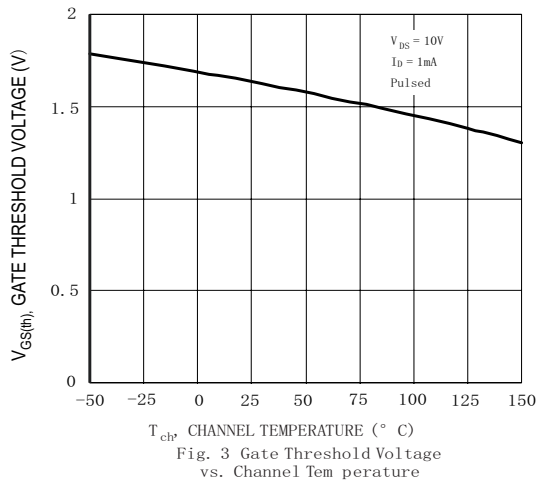
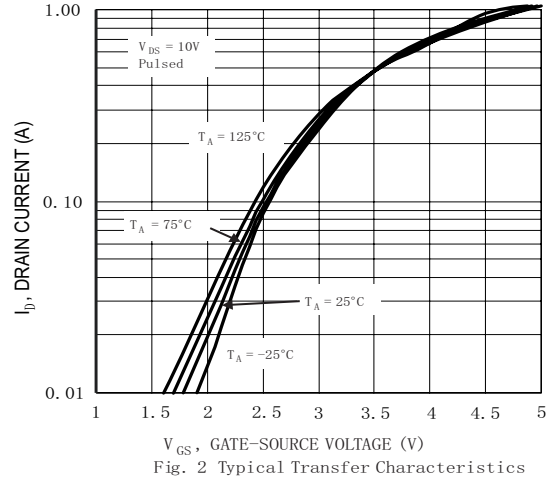
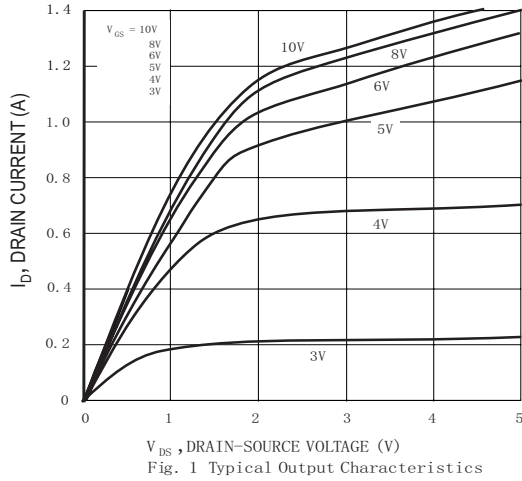
Notes: 1. Device mounted on FR-4 PCB.

#### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage (Note.2)	$V_{DSS}$	$I_D=100\ \mu\text{A}$ , $V_{GS}=0\text{V}$	60			V
Zero Gate Voltage Drain Current (Note.2)	$I_{DSS}$	$V_{DS}=60\text{V}$ , $V_{GS}=0\text{V}$			1	$\mu\text{A}$
Gate-Body Leakage Current (Note.2)	$I_{GSS}$	$V_{DS}=0\text{V}$ , $V_{GS}=\pm 20\text{V}$			$\pm 10$	$\mu\text{A}$
Gate Threshold Voltage (Note.2)	$V_{GS(th)}$	$V_{DS} = 10\text{V}$ , $I_D = 1\text{mA}$	1	1.6	2.5	V
Static Drain-Source On-Resistance (Note.2)	$R_{DS(on)}$	$V_{GS}=10\text{V}$ , $I_D=500\text{mA}$			2	$\Omega$
		$V_{GS}=10\text{V}$ , $I_D=50\text{mA}$			3	
Forward Transfer Admittance (Note.2)	$ Y_{fs} $	$V_{GS}=10\text{V}$ , $I_D=200\text{mA}$	80			ms
Input Capacitance	$C_{iss}$	$V_{GS}=0\text{V}$ , $V_{DS}=25\text{V}$ , $f=1\text{MHz}$			50	$\text{pF}$
Output Capacitance	$C_{oss}$				25	
Reverse Transfer Capacitance	$C_{rss}$				5	
Total Gate Charge	$Q_g$	$V_{GS}=4.5\text{V}$ , $V_{DS}=15\text{V}$ , $I_D=200\text{mA}$			0.8	nC
Turn-On DelayTime	$t_{d(on)}$	$I_D=200\text{mA}$ , $V_{DS}=30\text{V}$ , $R_G=10\Omega$ , $V_{GEN}=10\text{V}$ , $R_L=150\Omega$			20	ns
Turn-Off DelayTime	$t_{d(off)}$				40	

Note: 2. Short duration test pulse used to minimize self-heating effect.

## Typical Characteristics



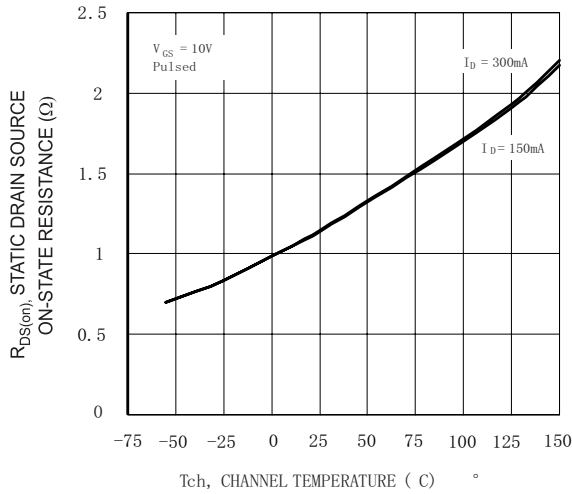


Fig. 7 Static Drain-Source On-State Resistance vs. Channel Temperature

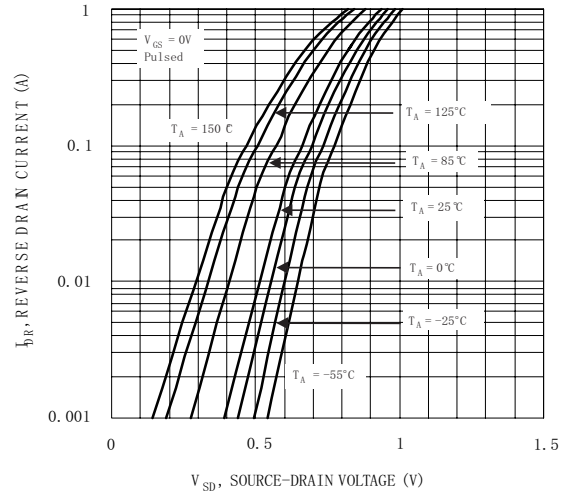


Fig. 8 Reverse Drain Current vs. Source-Drain Voltage

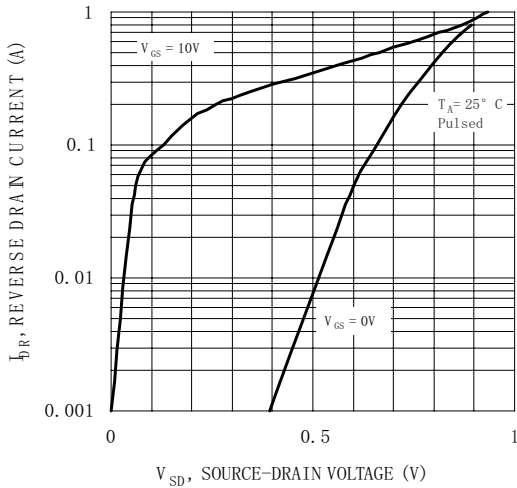


Fig. 9 Reverse Drain Current vs. Source-Drain Voltage

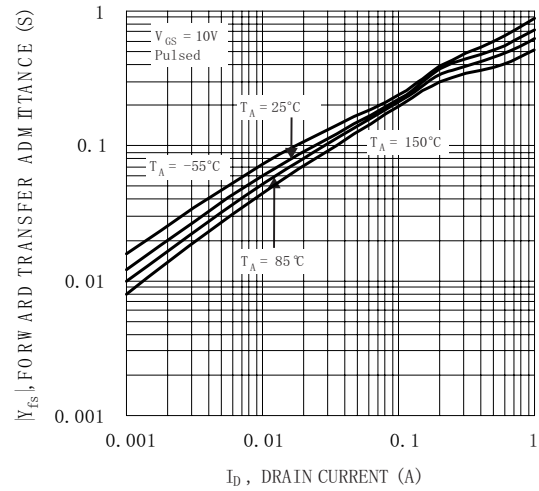


Fig. 10 Forward Transfer Admittance vs. Drain Current

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

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

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

Other Similar products are found below :

[IRFD120](#) [JANTX2N5237](#) [BUK455-60A/B](#) [MIC4420CM-TR](#) [VN1206L](#) [NDP4060](#) [SI4482DY](#) [IPS70R2K0CEAKMA1](#) [SQD23N06-31L-GE3](#)  
[TK16J60W,S1VQ\(O](#) [2SK2614\(TE16L1,Q\)](#) [DMN1017UCP3-7](#) [DMN1053UCP4-7](#) [SQJ469EP-T1-GE3](#) [NTE2384](#) [DMC2700UDMQ-7](#)  
[DMN2080UCB4-7](#) [DMN61D9UWQ-13](#) [US6M2GTR](#) [DMN31D5UDJ-7](#) [DMP22D4UFO-7B](#) [DMN1006UCA6-7](#) [DMN16M9UCA6-7](#)  
[STF5N65M6](#) [IRF40H233XTMA1](#) [STU5N65M6](#) [DMN6022SSD-13](#) [DMN13M9UCA6-7](#) [DMTH10H4M6SPS-13](#) [DMN2990UFB-7B](#)  
[IPB80P04P405ATMA2](#) [2N7002W-G](#) [MCAC30N06Y-TP](#) [MCQ7328-TP](#) [BXP7N65D](#) [BXP4N65F](#) [AOL1454G](#) [WMJ80N60C4](#) [BXP2N20L](#)  
[BXP2N65D](#) [BXT1150N10J](#) [BXT1700P06M](#) [TSM60NB380CP](#) [ROG](#) [RQ7L055BGTCR](#) [DMNH15H110SK3-13](#) [SLF10N65ABV2](#)  
[BSO203SP](#) [BSO211P](#) [IPA60R230P6](#) [IPA60R460CE](#)