



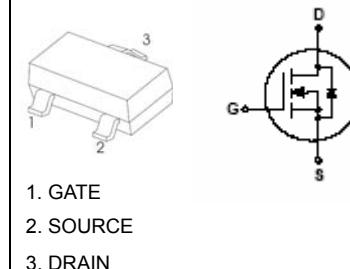
2N7002

N-Channel Enhancement Mode MOSFET

Feature

- 60V/0.2A, $R_{DS(ON)} = 7.5\Omega$ (MAX) @ $V_{GS} = 10V$. $I_D = 0.5A$
 $R_{DS(ON)} = 7.5\Omega$ (MAX) @ $V_{GS} = 5V$. $I_D = 0.05A$
- Super High dense cell design for extremely low $R_{DS(ON)}$.
- Reliable and Rugged.
- SOT-23 for Surface Mount Package.

SOT-23



Applications

- Power Management in Desktop Computer or DC/DC Converters .

Absolute Maximum Ratings

 $T_A=25^\circ C$ Unless Otherwise noted

Parameter	Symbol	Limit	Units
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current-Continuous	I_D	0.2	A
Power Dissipation	P_D	0.225	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	556	$^\circ C / W$
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature	T_{stg}	-50~+150	

Electrical Characteristics

 $T_A=25^\circ C$ Unless Otherwise noted

Parameter	Symbol	Test Conditions	Min	Typ.	Max	Units
Off Characteristics						
Drain to Source Breakdown Voltage	$BVDSS$	$VGS=0V$, $ID=250\mu A$	60	-	-	V
Zero-Gate Voltage Drain Current	$IDSS$	$VDS=60V$, $VGS=0V$	-	-	1	μA
Gate Body Leakage Current, Forward	$IGSSF$	$VGS=20V$, $VDS=0V$	-	-	100	nA
Gate Body Leakage Current, Reverse	$IGSSR$	$VGS=-20V$, $VDS=0V$	-	-	-100	nA
On Characteristics						
Gate Threshold Voltage	$VGS(th)$	$VGS= VDS$, $ID=250\mu A$	1	-	-	V
Static Drain-source On-Resistance *	$R_{DS(ON)}$	$VGS = 10V$, $ID = 0.5A$	-		7.5	Ω
		$VGS = 5V$, $ID = 0.05A$	-		7.5	Ω
Drain-Source Diode Characteristics and Maximum Ratings						
Drain-Source Diode Forward Voltage	VSD	$VGS = 0V$, $IS=0.2A$			2.5	V

Notes :

*Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.



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Typical Characteristics

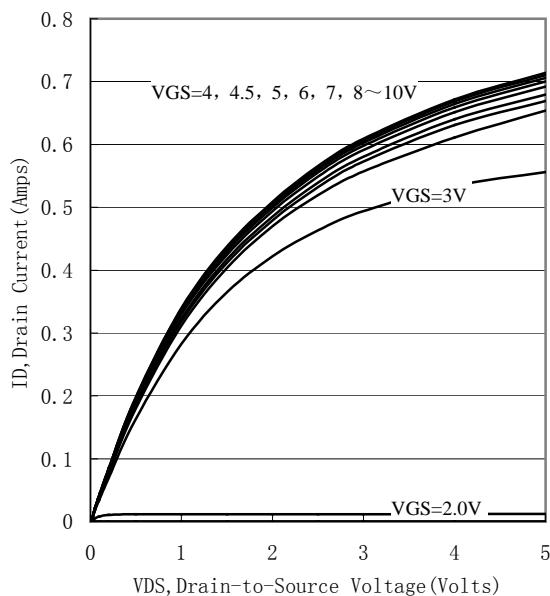


Figure 1. Output Characteristics

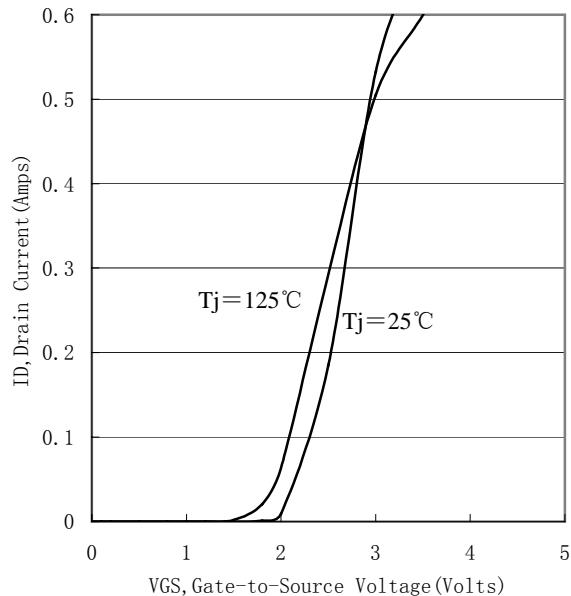


Figure 2. Transfer Characteristics

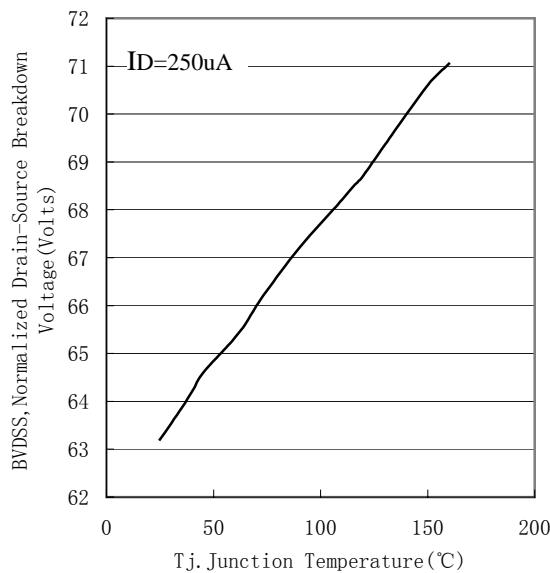


Figure 3. Breakdown Voltage Variation with Temperature

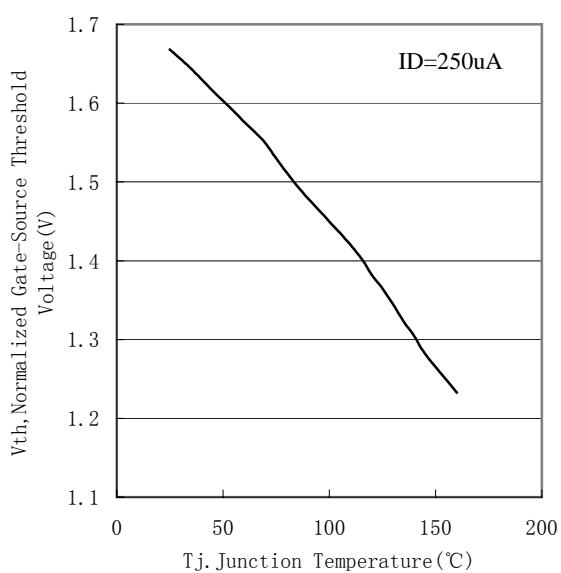


Figure 4. Gate Threshold Variation with Temperature



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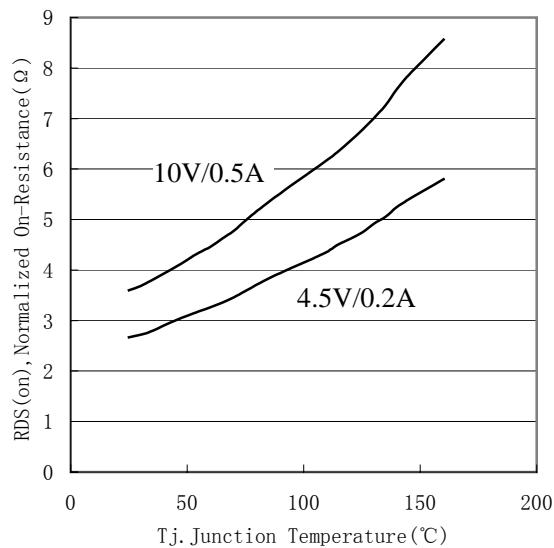


Figure 5. On-Resistance Variation with Temperature

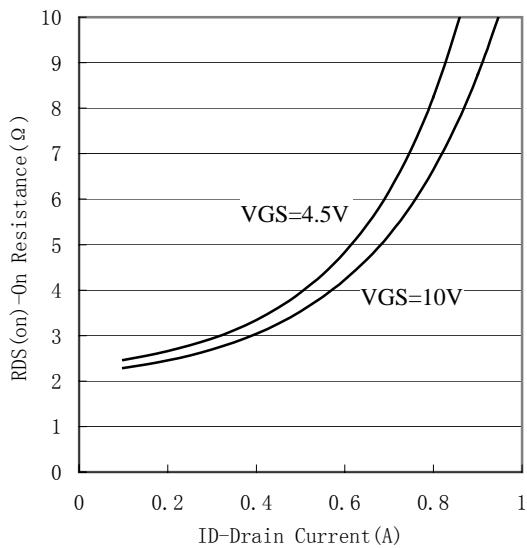


Figure 6. On-Resistance vs. Drain Current

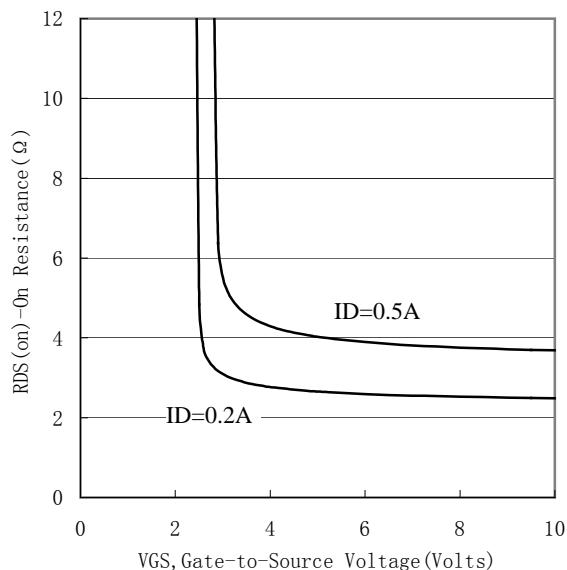


Figure 7. On-Resistance vs. Gate-to-Source Voltage

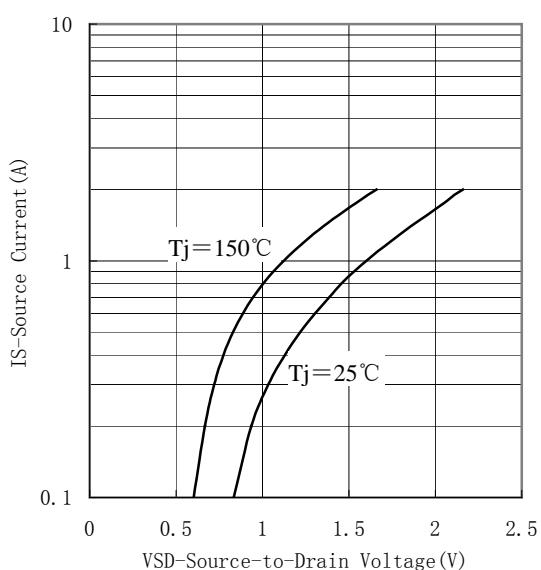


Figure 8. Source-Drain Diode Forward Voltage

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