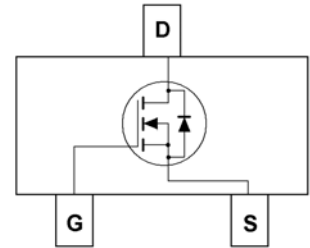


## N-Channel Enhancement Mode MOSFET

### Feature

- 60V/0.5A,  $R_{DS(ON)} = 7500\text{m}\Omega$  (MAX) @  $V_{GS} = 10\text{V}$ ,  $I_D = 0.5\text{A}$   
 $R_{DS(ON)} = 7500\text{m}\Omega$  (MAX) @  $V_{GS} = 4.5\text{V}$ ,  $I_D = 0.2\text{A}$
- 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

$T_A = 25^\circ\text{C}$  Unless Otherwise noted

Parameter	Symbol	Limit	Units
Drain-Source Voltage	$V_{DS}$	60	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Drain Current-Continuous	$I_D$	0.5	A

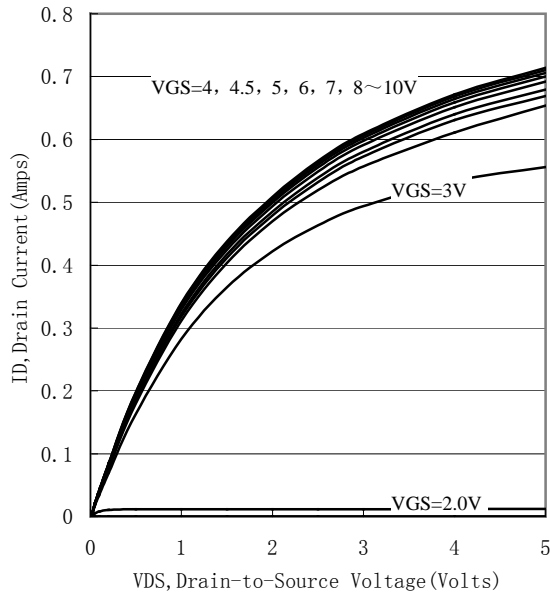
### Electrical Characteristics

$T_A = 25^\circ\text{C}$  Unless Otherwise noted

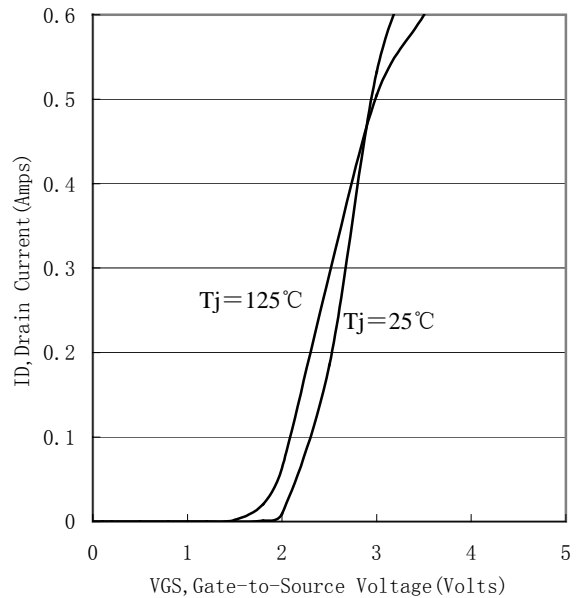
Parameter	Symbol	Test Conditions	Min	Typ.	Max	Units
<b>Off Characteristics</b>						
Drain to Source Breakdown Voltage	BVDSS	$V_{GS}=0\text{V}$ , $I_D=10\mu\text{A}$	60	-	-	V
Zero-Gate Voltage Drain Current	IDSS	$V_{DS}=60\text{V}$ , $V_{GS}=0\text{V}$	-	-	1	$\mu\text{A}$
Gate Body Leakage Current, Forward	IGSSF	$V_{GS}=20\text{V}$ , $V_{DS}=0\text{V}$	-	-	100	nA
Gate Body Leakage Current, Reverse	IGSSR	$V_{GS}=-20\text{V}$ , $V_{DS}=0\text{V}$	-	-	-100	nA
<b>On Characteristics</b>						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{GS}=V_{DS}$ , $I_D=250\mu\text{A}$	1	-	2.5	V
Static Drain-source	RDS(ON)	$V_{GS}=10\text{V}$ , $I_D=0.5\text{A}$	-	4500	7500	$\text{m}\Omega$
On-Resistance		$V_{GS}=4.5\text{V}$ , $I_D=0.2\text{A}$	-	5250	7500	$\text{m}\Omega$
<b>Drain-Source Diode Characteristics and Maximum Ratings</b>						
Drain-Source Diode Forward Voltage	VSD	$V_{GS}=0\text{V}$ , $I_S=0.2\text{A}$			2.5	V

**N-Channel Enhancement Mode MOSFET**

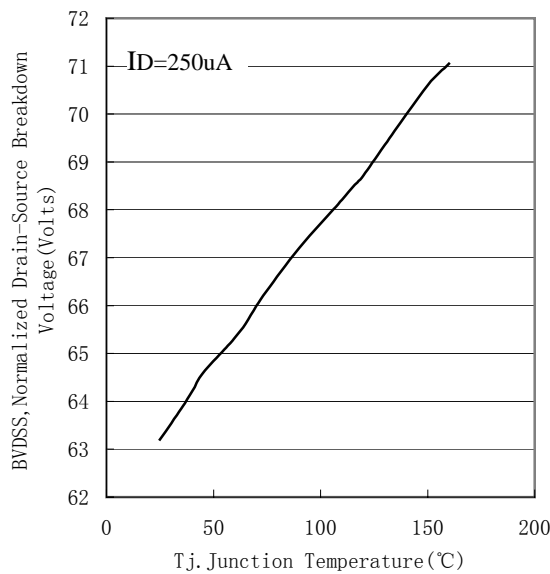
**Typical Characteristics**



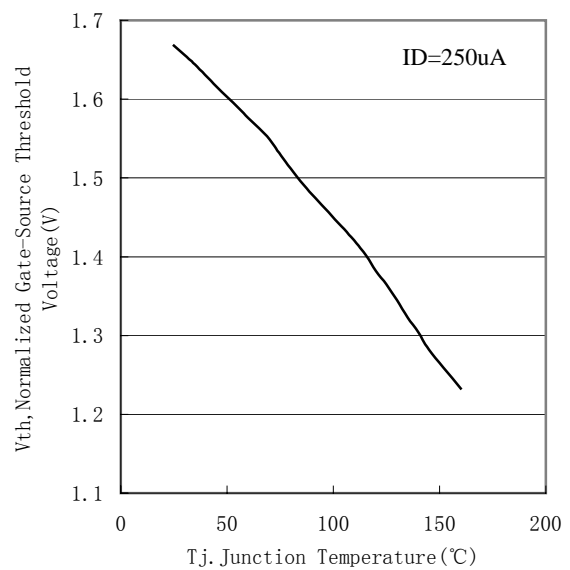
**Figure 1. Output Characteristics**



**Figure 2. Transfer Characteristics**



**Figure 3. Breakdown Voltage Variation with Temperature**

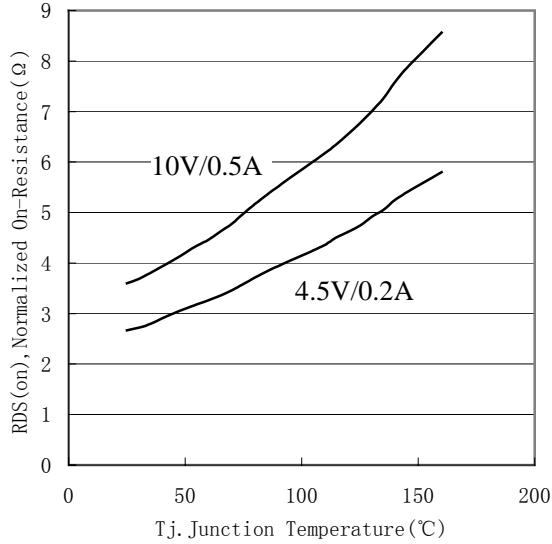


**Figure 4. Gate Threshold Variation with Temperature**

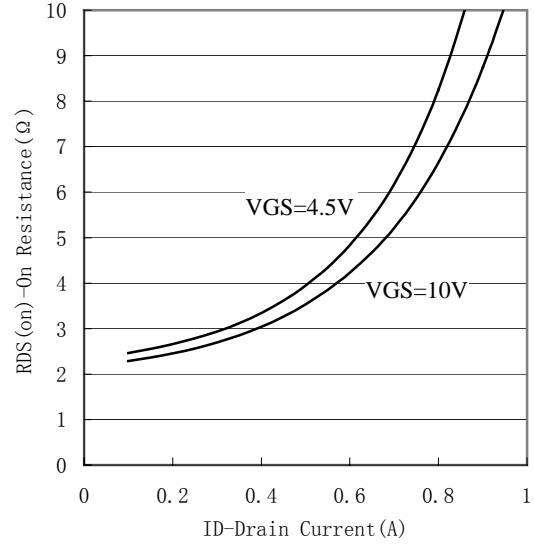
## 2N7002

### N-Channel Enhancement Mode MOSFET

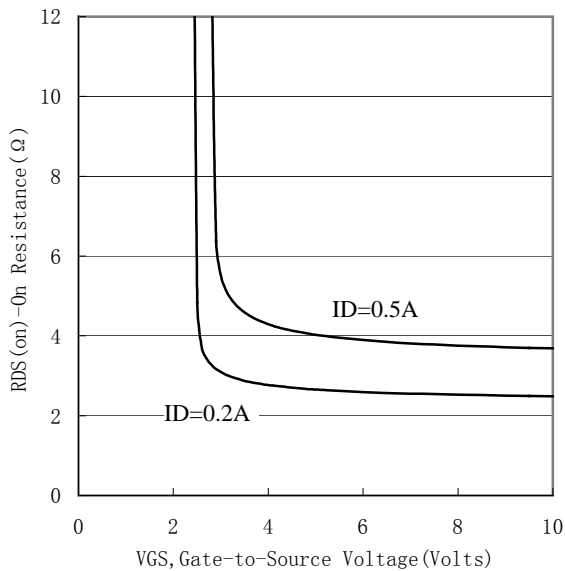
#### Typical Characteristics



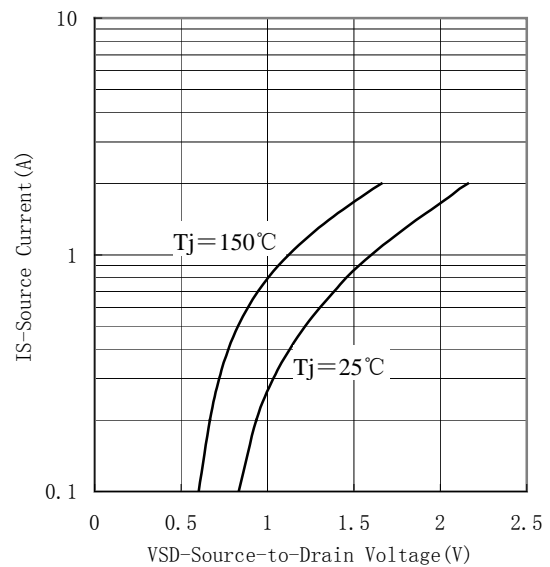
**Figure 5. On-Resistance Variation with Temperature**



**Figure 6. On-Resistance vs. Drain Current**



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



**Figure 8. Source-Drain Diode Forward Voltage**