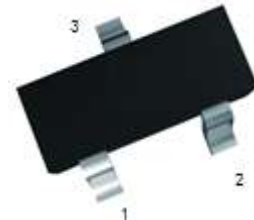


## N-Channel Enhancement Mode MOSFET

### Feature

- 60V/0.2A,  $R_{DS(ON)} = 3.5\Omega(\text{MAX}) @ V_{GS} = 5V, I_D = 0.2A$   
 $R_{DS(ON)} = 10\Omega(\text{MAX}) @ V_{GS} = 2.75V, I_D = 0.2A$
- Super High dense cell design for extremely low  $R_{DS(ON)}$ .
- Reliable and Rugged.
- Low Threshold Voltage ( 0.5V—1.5V ) Make it Ideal for Low Voltage Applications.
- SOT-23 for Surface Mount Package.

### SOT-23



1: Gate 2: Source 3: Drain

### Applications

- Power Management in DC/DC Converters  
 Portable and Battery-powered Products.

### 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	$I_D$	0.2	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	$V_{GS}=0V, I_D=250\mu A$	60	-	-	V
Zero-Gate Voltage Drain Current	IDSS	$V_{DS}=50V, V_{GS}=0V$	-	-	0.5	$\mu A$
		$V_{DS}=25V, V_{GS}=0V$	-	-	0.1	
Gate Body Leakage Current, Forward	IGSSF	$V_{GS}=20V, V_{DS}=0V$	-	-	100	nA
Gate Body Leakage Current, Reverse	IGSSR	$V_{GS}=-20V, V_{DS}=0V$	-	-	-100	nA
<b>On Characteristics</b>						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=1.0\text{ mA}$	0.5	-	1.5	V
Static Drain-source On-Resistance	$R_{DS(ON)}$	$V_{GS}=5.0V, I_D=0.2A$	-	-	3.5	$\Omega$
		$V_{GS}=2.75V, I_D=0.2A$	-	-	10	$\Omega$
<b>Drain-Source Diode Characteristics and Maximum Ratings</b>						
Drain-Source Diode Forward Voltage	VSD	$V_{GS}=0V, I_S=0.2A$			2.5	V

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## Typical Characteristics

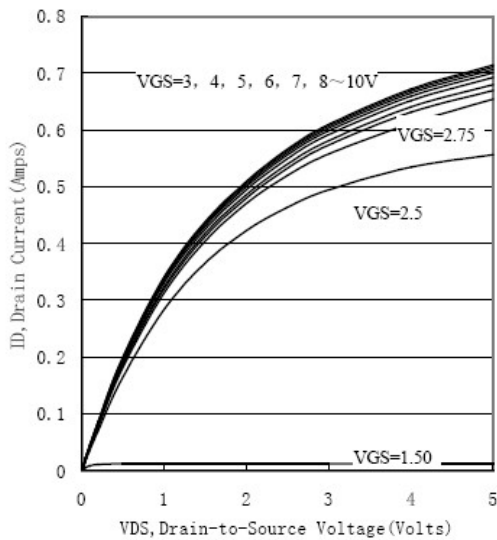


Figure 1. Output Characteristics

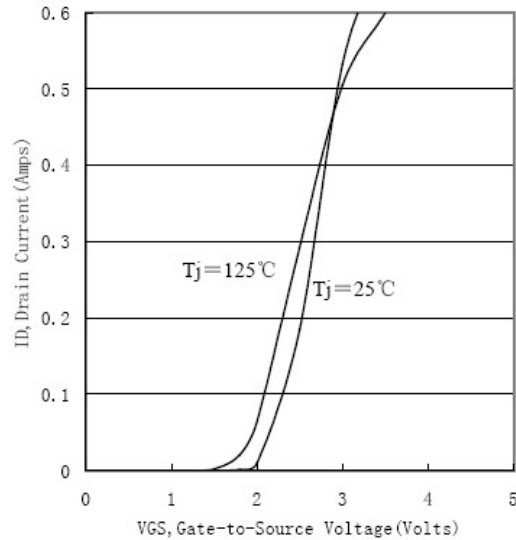


Figure 2. Transfer Characteristics

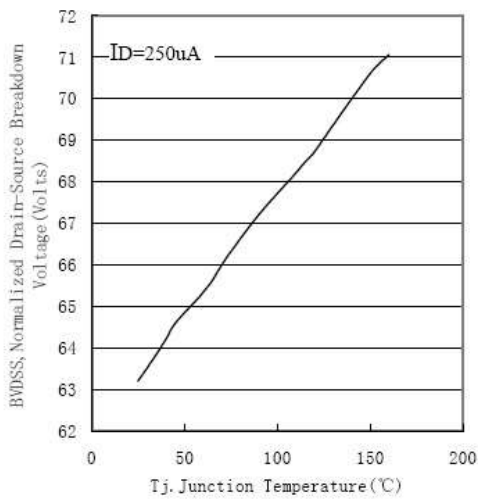


Figure 3. Breakdown Voltage Variation with Temperature

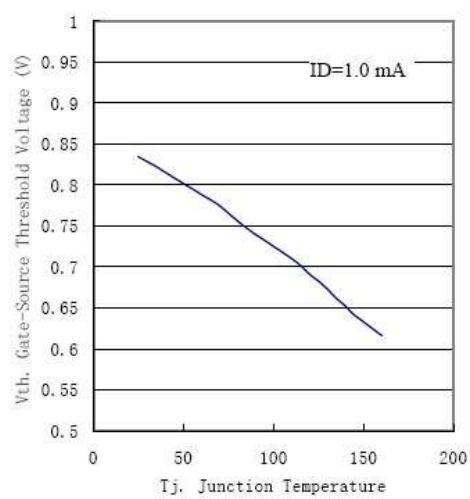
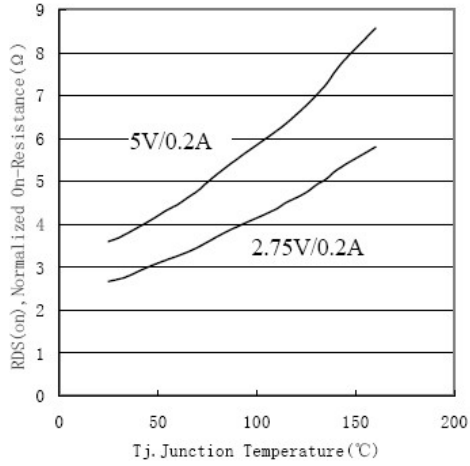


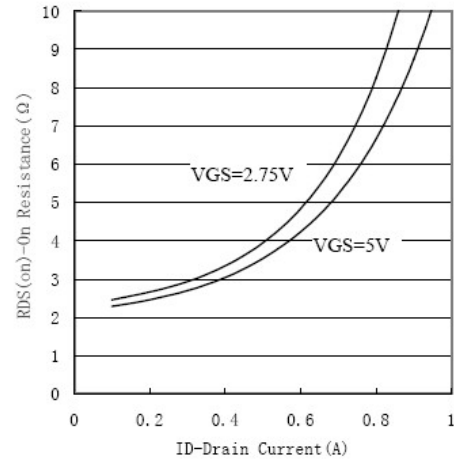
Figure 4. Gate Threshold Variation with Temperature



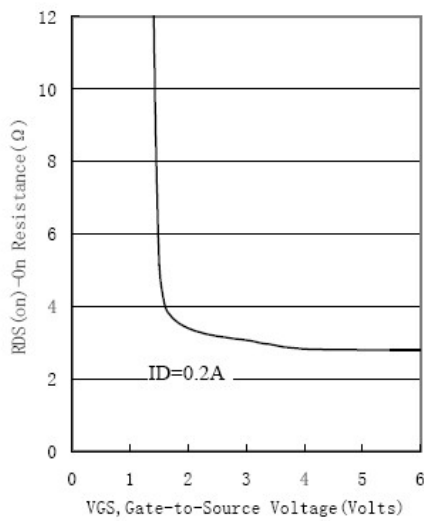
## Typical Characteristics



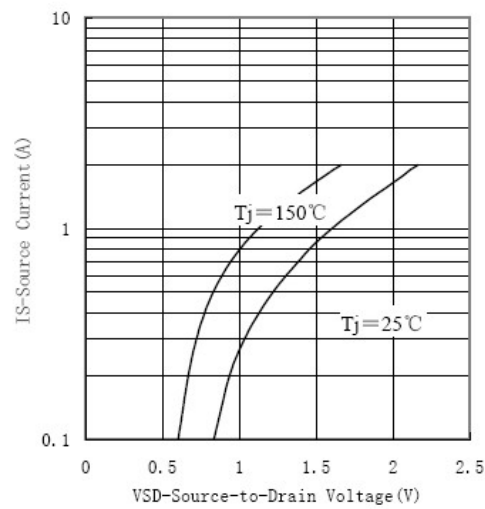
**Figure 5. On-Resistance Variation with Temperature**



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



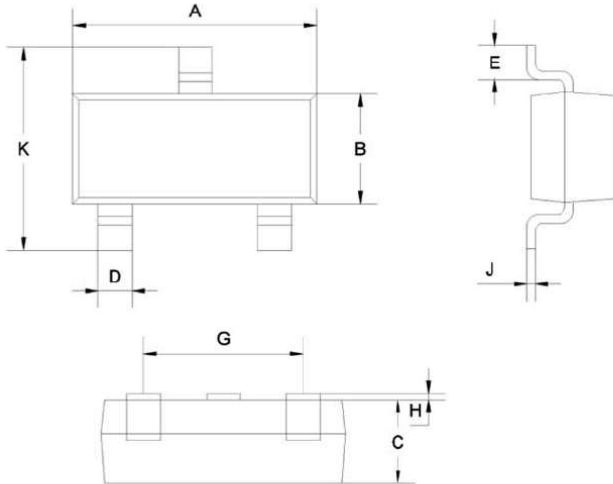
**Figure 7. On-Resistance vs. Gate-to-Source Voltage**



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

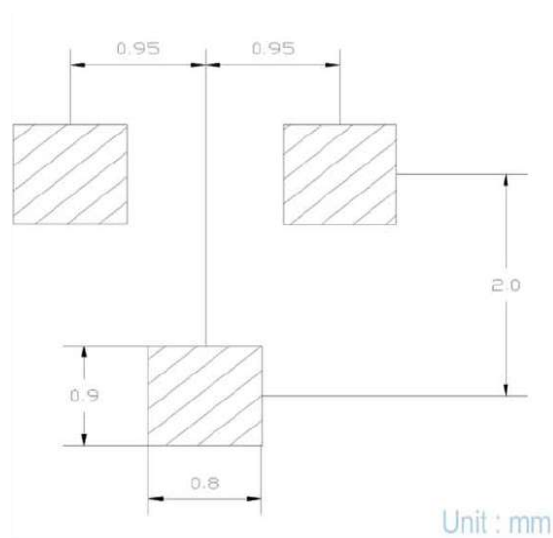


SOT-23 Package Outline Dimensions (UNIT: mm)



SOT-23		
Dim	Min	Max
A	2.85	2.95
B	1.25	1.35
C	1.0Typical	
D	0.37	0.43
E	0.35	0.48
G	1.85	1.95
H	0.02	0.1
J	0.1Typical	
K	2.35	2.45
All Dimensions in mm		

### Soldering Footprint



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