

## ● Feature

50V/0.2A,  $R_{DS(ON)} = 3.5 \Omega$  (MAX) @ $V_{GS} = 5V$ ,  $I_D = 0.2A$   
 $R_{DS(ON)} = 10 \Omega$  (MAX) @ $V_{GS} = 2.75V$ ,  $I_D = 0.2A$

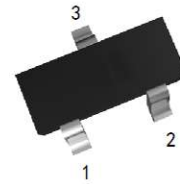
Super High dense cell design for extremely low  $R_{DS(ON)}$ .

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	$V_{DS}$	50	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Drain Current-Continuous	$I_D$	0.2	A

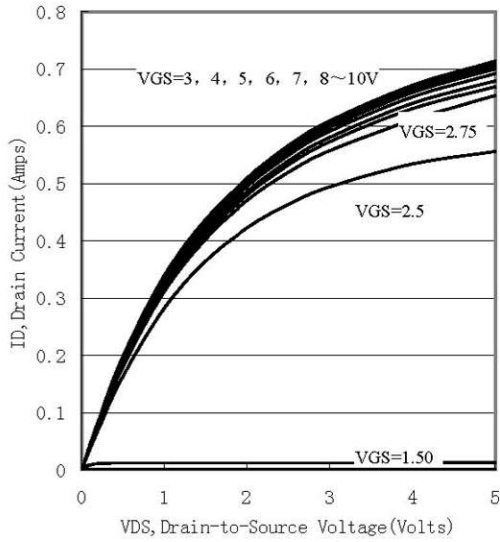
## ● Electrical Characteristics

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

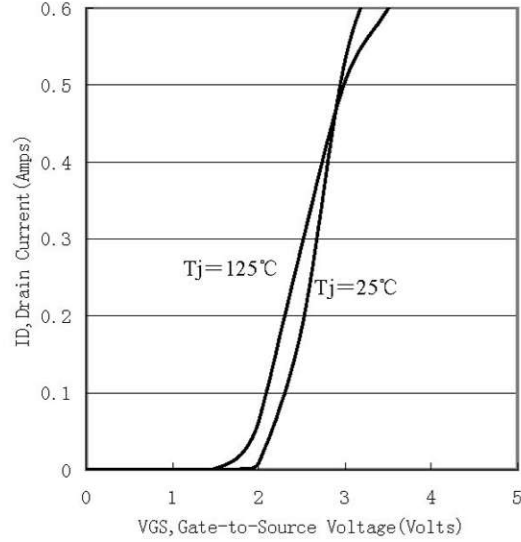
Parameter	Symbol	Test Conditions	Min	Typ.	Max	Units
<b>Off Characteristics</b>						
Drain to Source Breakdown Voltage	BVDSS	$V_{GS} = 0V$ , $I_D = 250\mu A$	50	-	-	V
Zero-Gate Voltage Drain Current	IDSS	$V_{DS} = 50V$ , $V_{GS} = 0V$	-	-	0.5	$\mu A$
		$V_{DS} = 25V$ , $V_{GS} = 0V$	-	-	0.1	
Gate Body 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	$V_{GS(th)}$	$V_{GS} = V_{DS}$ , $I_D = 1.0 mA$	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



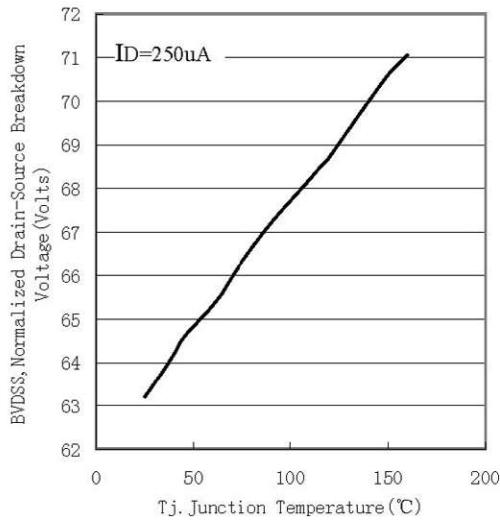
## Typical Characteristics



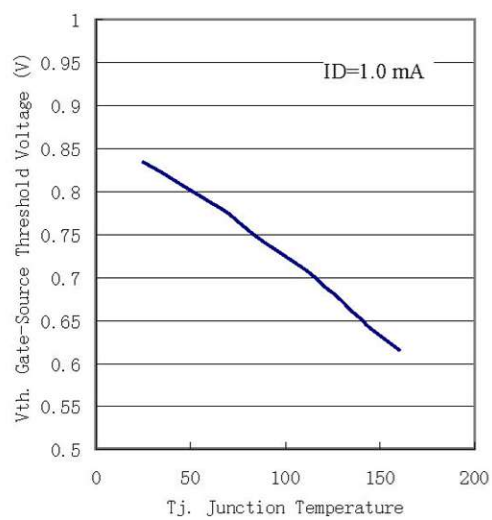
**Figure 1. Output Characteristics**



**Figure 2. Transfer Characteristics**



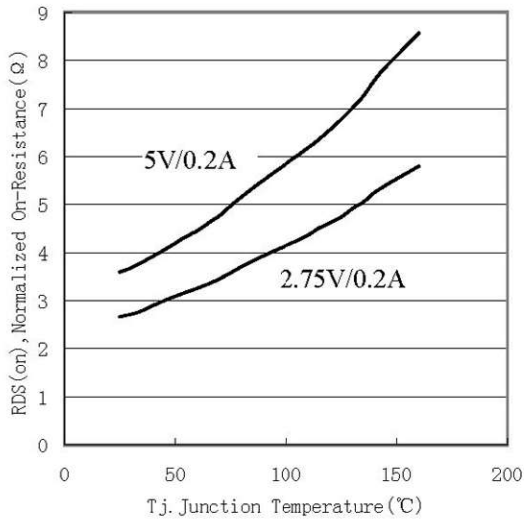
**Figure 3. Breakdown Voltage Variation with Temperature**



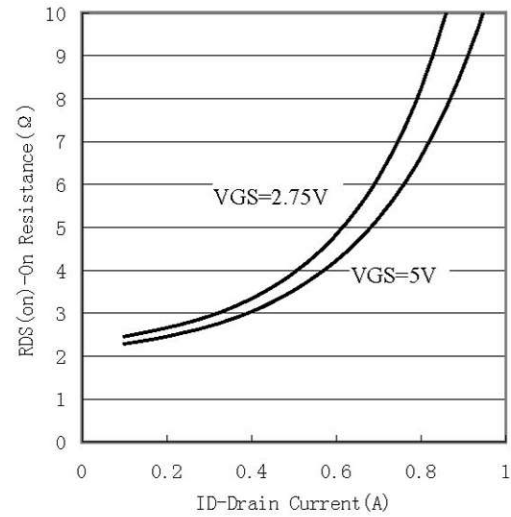
**Figure 4. Gate Threshold Variation with Temperature**



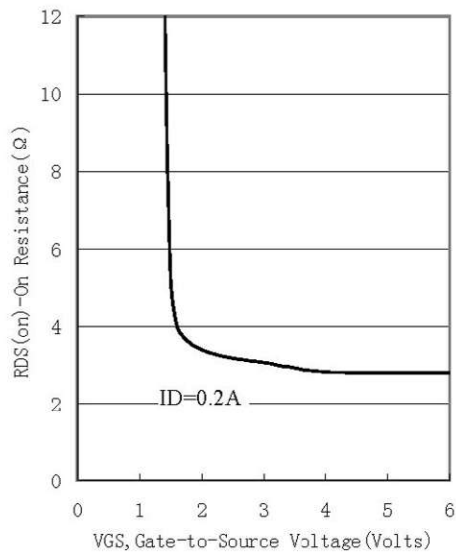
## Typical Characteristics



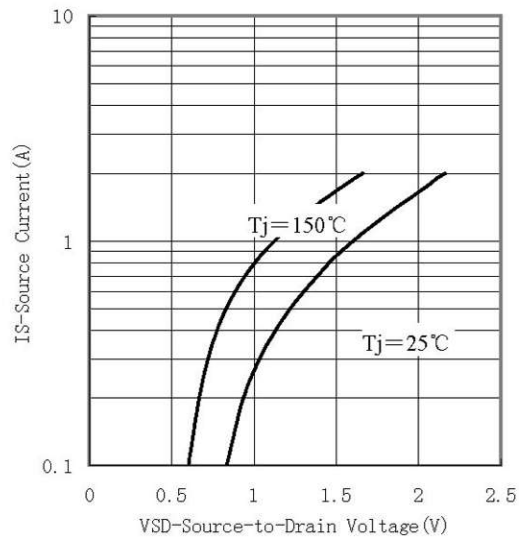
**Figure 5. On-Resistance Variation with Temperature**



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



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



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

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