

## P-Channel Enhancement Mode MOSFET

### RC2301A

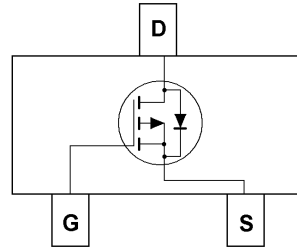
#### Feature

-20V/-3A,  $R_{DS(ON)} = 120\text{m}\Omega(\text{MAX}) @V_{GS} = -4.5\text{V}$ .  
 $R_{DS(ON)} = 150\text{m}\Omega(\text{MAX}) @V_{GS} = -2.5\text{V}$ .

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

Reliable and Rugged

SOT23 for Surface Mount Package



#### Applications

- Power Management
- Portable Equipment and Battery Powered Systems.

#### Absolute Maximum Ratings

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

Parameter	Symbol	Limit	Units
Drain-Source Voltage	$V_{DS}$	-20	V
Gate-Source Voltage	$V_{GS}$	$\pm 10$	V
Drain Current-Continuous	$I_D$	-3	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	$V_{GS} = 0\text{V}, I_D = -250\mu\text{A}$	-20	-	-	V
Zero-Gate Voltage Drain Current	IDSS	$V_{DS} = -20\text{V}, V_{GS} = 0\text{V}$	-	-	-1	$\mu\text{A}$
Gate Body Leakage Current, Forward	IGSSF	$V_{GS} = 10\text{V}, V_{DS} = 0\text{V}$	-	-	100	nA
Gate Body Leakage Current, Reverse	IGSSR	$V_{GS} = -10\text{V}, V_{DS} = 0\text{V}$	-	-	-100	nA
<b>On Characteristics</b>						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{GS} = V_{DS}, I_D = -250\mu\text{A}$	-0.4	-	-1.0	V
Static Drain-source	$R_{DS(ON)}$	$V_{GS} = -4.5\text{V}, I_D = -3.0\text{A}$	-	--	120	$\text{m}\Omega$
On-Resistance		$V_{GS} = -2.5\text{V}, I_D = -2.0\text{A}$	-	--	150	$\text{m}\Omega$
<b>Drain-Source Diode Characteristics and Maximum Ratings</b>						
Drain-Source Diode Forward Voltage	VSD	$V_{GS} = 0\text{V}, I_S = -1.25\text{A}$			-1.2	V

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#### Typical Characteristics

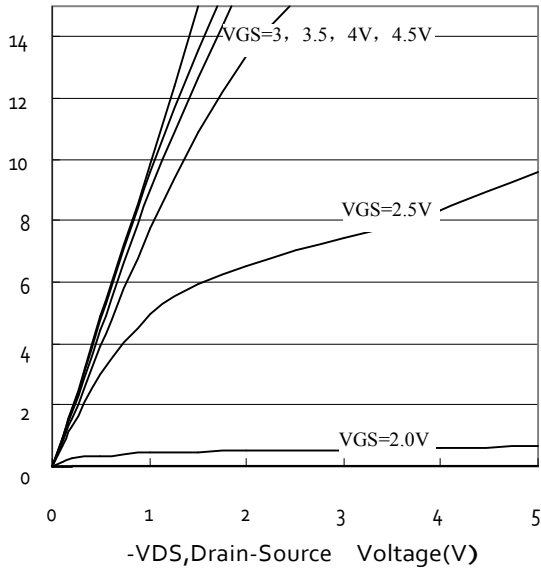


Figure 1. Output Characteristics

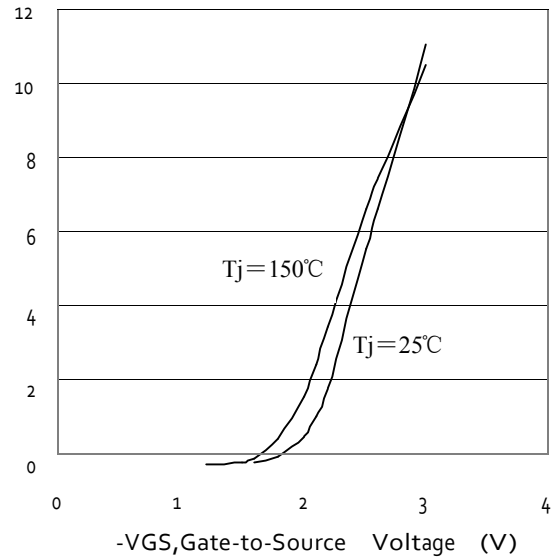


Figure 2. Transfer Characteristics

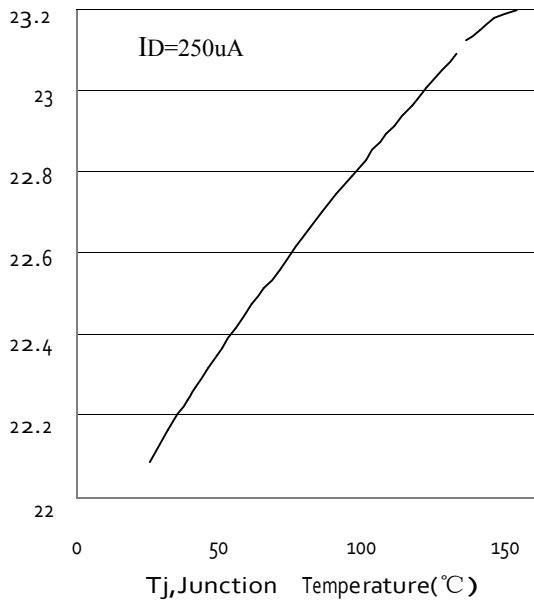


Figure 3. Breakdown Voltage Variation with Temperature

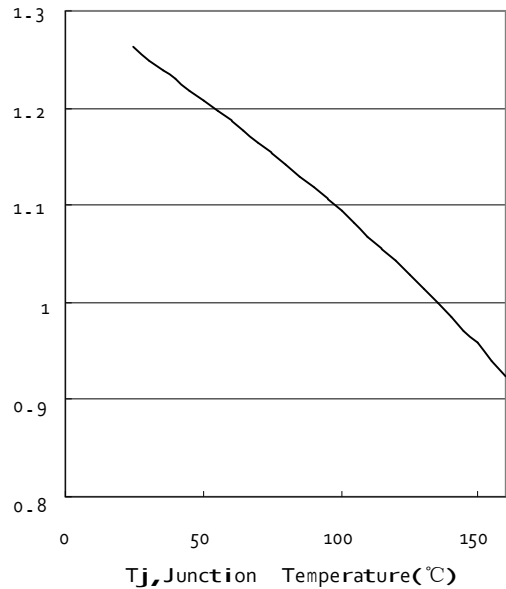


Figure 4. Gate Threshold Variation with Temperature

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Typical Characteristics

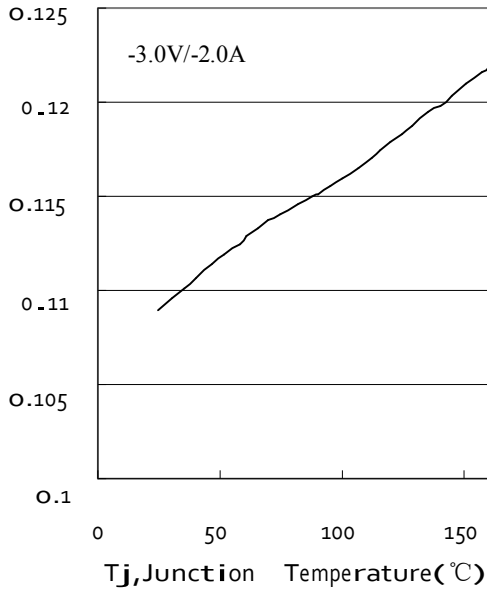


Figure 5. On-Resistance Variation with Temperature

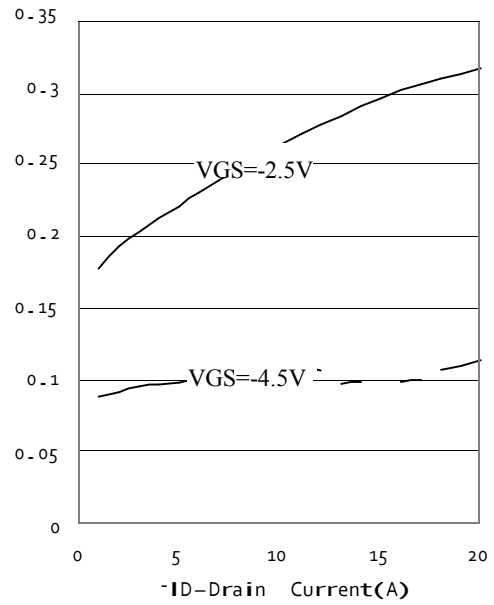


Figure 6. On-Resistance vs. Drain Current

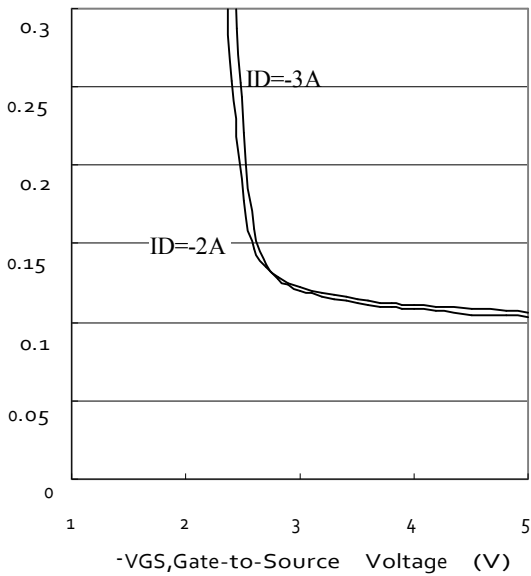


Figure 7. On-Resistance vs. Gate-to-Source Voltage

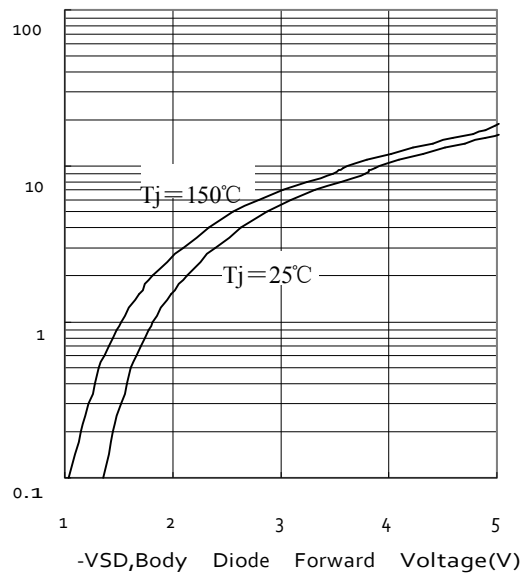


Figure 8. Source-Drain Diode Forward