

## N-Channel Enhancement Mode MOSFET

# RC2302

### Feature

20V/3A,  $R_{DS(ON)} = 60\text{m}\Omega(\text{MAX})$  @ $V_{GS} = 4.5\text{V}$ .

$R_{DS(ON)} = 80\text{m}\Omega(\text{MAX})$  @ $V_{GS} = 2.5\text{V}$ .

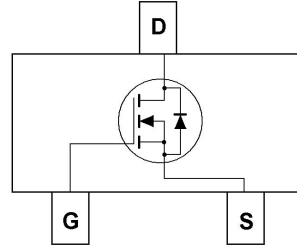
Super High dense cell design for extremely low  $R_{DS(ON)}$ .

Reliable and Rugged.

SOT23-3 for Surface Mount Package.



SOT-23-3



### Applications

- Power Management  
Portable Equipment and Battery Powered Systems.

### Absolute Maximum Ratings $T_A=25^\circ\text{C}$ Unless Otherwise noted

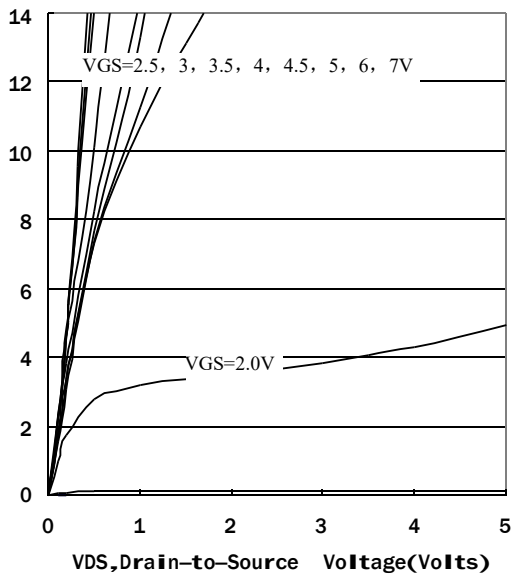
Parameter	Symbol	Limit	Units
Drain-Source Voltage	$V_{DS}$	20	V
Gate-Source Voltage	$V_{GS}$	$\pm 10$	V
Drain Current-Continuous	$I_D$	3.6	A

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

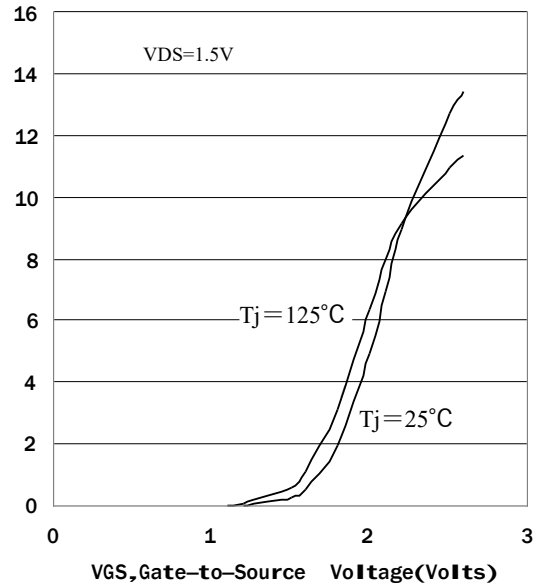
Parameter	Symbol	Test Conditions	Min	Typ.	Max	Units
<b>Off Characteristics</b>						
Drain to Source Breakdown Voltage	BVDSS	$V_{GS}=0\text{V}, I_D=250\mu\text{A}$	20	-	-	V
Zero-Gate Voltage Drain Current	IDSS	$V_{DS}=16\text{V}, V_{GS}=0\text{V}$	-	-	1	$\mu\text{A}$
Gate Body Leakage Current, Forward	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	-	1.3	V
Static Drain-source On-Resistance	RDS(ON)	$V_{GS}=4.5\text{V}, I_D=3\text{A}$	-	45	60	$\text{m}\Omega$
		$V_{GS}=2.5\text{V}, I_D=2\text{A}$	-	65	80	$\text{m}\Omega$
<b>Drain-Source Diode Characteristics and Maximum Ratings</b>						
Drain-Source Diode Forward Voltage	VSD	$V_{GS}=0\text{V}, I_S=0.94\text{A}$			1.2	V

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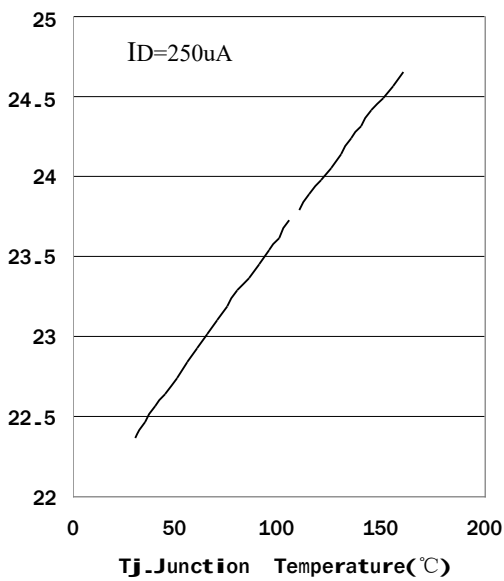
## Typical Characteristics



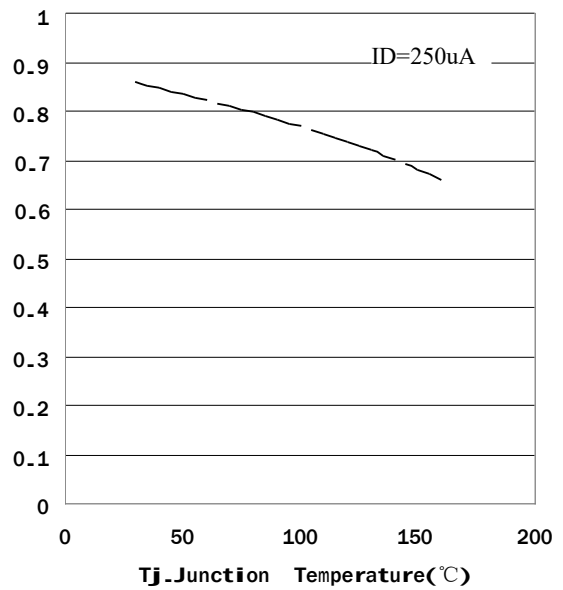
**Figure 1. Output Characteristics**



**Figure 2. Transfer Characteristics**



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



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

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## Typical Characteristics

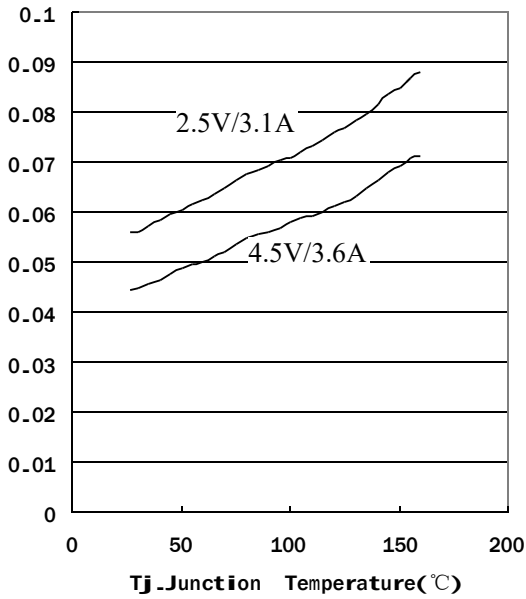


Figure 5. On-Resistance Variation with Temperature

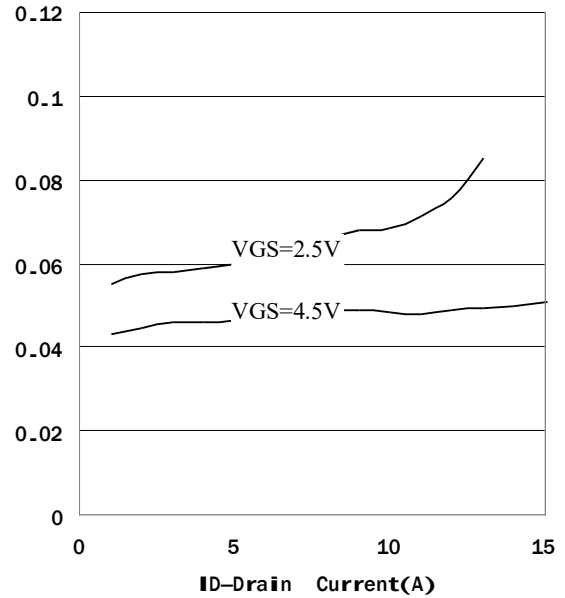


Figure 6. On-Resistance vs. Drain Current

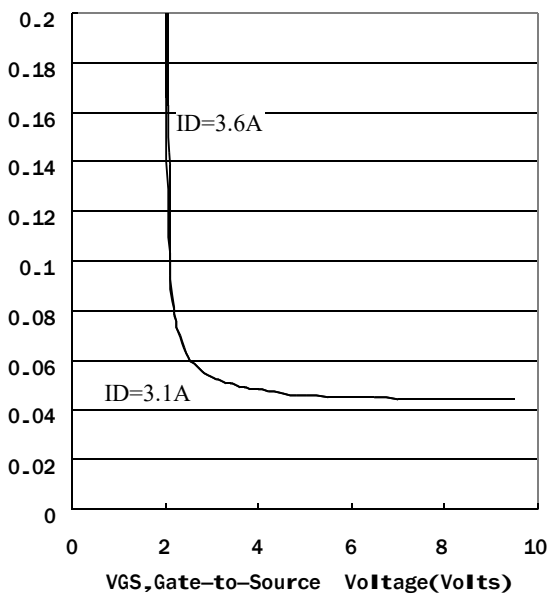


Figure 7. On-Resistance vs. Gate-to-Source Voltage

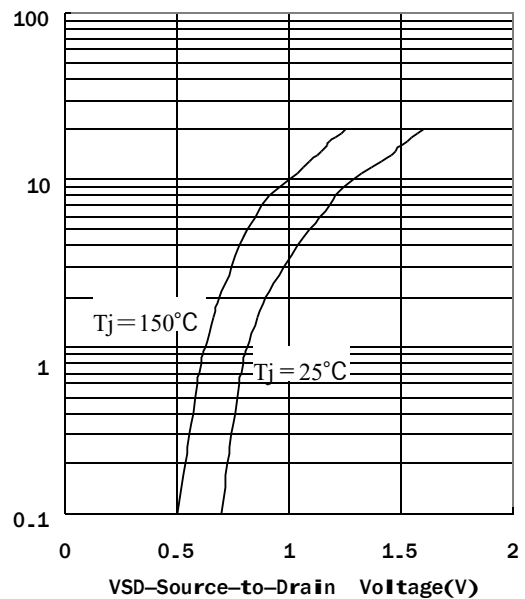
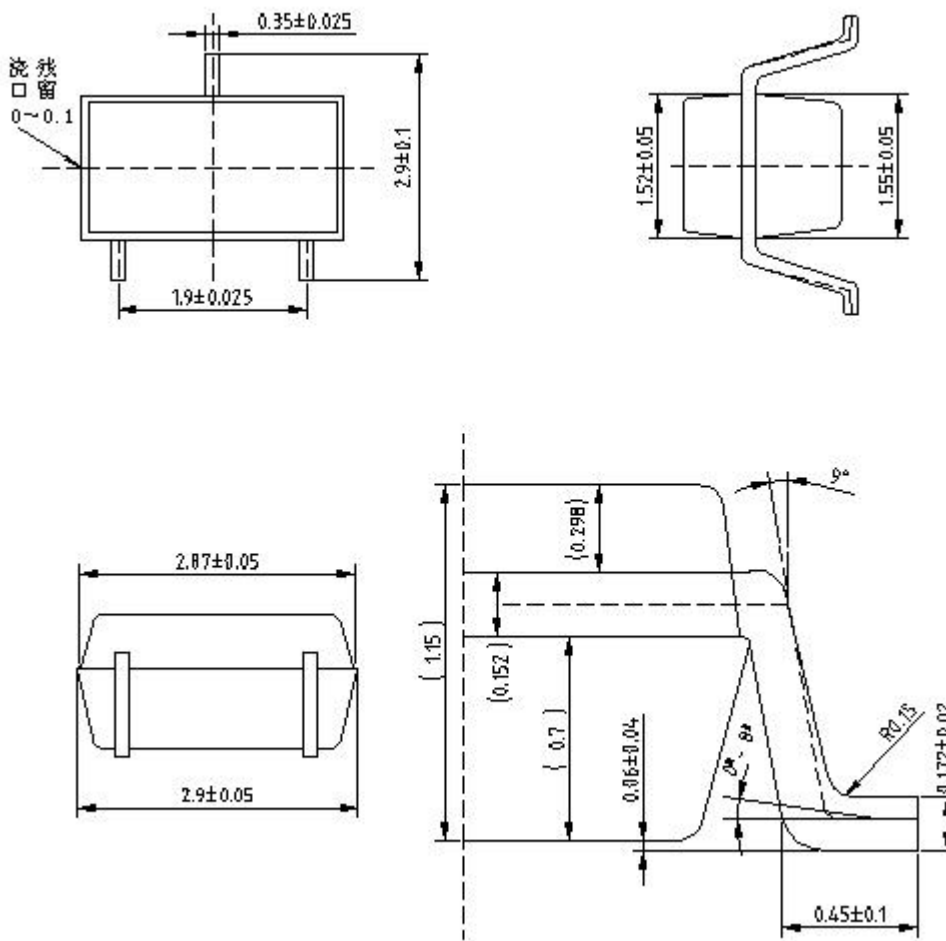


Figure 8. Source-Drain Diode Forward Voltage

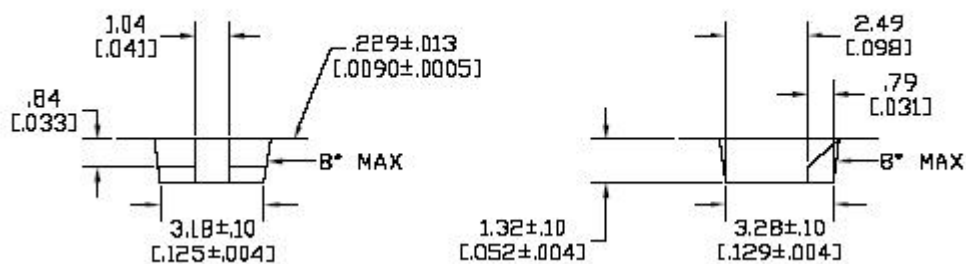
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### Package Outline Dimensions

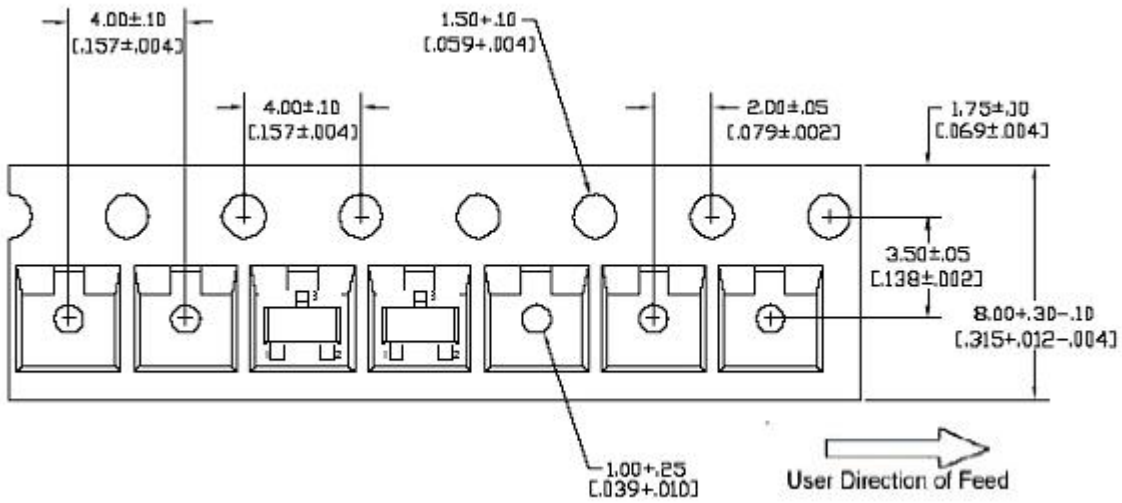
#### SOT23-3



#### SOT23-3 Carrier Tape



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## SOT23-3 Carrier Reel

