

# N-Channel Enhancement Mode MOSFET RC3400A

## Feature

30V/5.8A,  $R_{DS(ON)} = 35m\Omega(MAX)$  @ $V_{GS} = 10V$ .

$R_{DS(ON)} = 40m\Omega(MAX)$  @ $V_{GS} = 4.5V$ .

$R_{DS(ON)} = 55m\Omega(MAX)$  @ $V_{GS} = 2.5V$ .

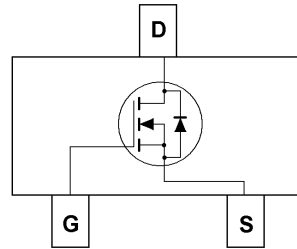
Super High dense cell design for extremely low  $R_{DS(ON)}$ .

Reliable and Rugged.

SOT-23 for Surface Mount Package.



SOT-23



## Applications

- Power Management
- Portable Equipment and Battery Powered Systems.

## Absolute Maximum Ratings

$T_A = 25^\circ C$  Unless Otherwise noted

Parameter	Symbol	Limit	Units
Drain-Source Voltage	$V_{DS}$	30	V
Gate-Source Voltage	$V_{GS}$	$\pm 12$	V
Drain Current-Continuous	$I_D$	5.8	A

## Electrical Characteristics

$T_A = 25^\circ C$  Unless Otherwise noted

Parameter	Symbol	Test Conditions	Min	Typ.	Max	Units
<b>Off Characteristics</b>						
Drain to Source Breakdown Voltage	BVDSS	$V_{GS} = 0V, I_D = 250\mu A$	30	-	-	V
Zero-Gate Voltage Drain Current	IDSS	$V_{DS} = 30V, V_{GS} = 0V$	-	-	1	$\mu A$
Gate Body Leakage Current, Forward	IGSSF	$V_{GS} = 12V, V_{DS} = 0V$	-	-	100	nA
Gate Body Leakage Current, Reverse	IGSSR	$V_{GS} = -12V, V_{DS} = 0V$	-	-	-100	nA
<b>On Characteristics</b>						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{GS} = V_{DS}, I_D = 250\mu A$	0.6	-	1.5	V
Static Drain-source On-Resistance	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 5.8A$	-	30	35	$m\Omega$
		$V_{GS} = 4.5V, I_D = 5A$	-	33	40	$m\Omega$
		$V_{GS} = 2.5V, I_D = 4A$	-	45	55	$m\Omega$
<b>Drain-Source Diode Characteristics and Maximum Ratings</b>						
Drain-Source Diode Forward Voltage	VSD	$V_{GS} = 0V, I_S = 1.25A$			1.2	V

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Dynamic					
$Q_g$	Total Gate Charge	$V_{DS}=15V, V_{GS}=10V, I_D=2A$		8.5	12
$Q_{gs}$	Gate-Source Charge			1.1	
$Q_{gd}$	Gate-Drain Charge			1.8	
$t_{on}$	Turn-on Time	$V_{DD}=15V, I_D=2A, V_{GS}=10V, R_G=6\Omega$			40
$t_{d(ON)}$	Turn-on Delay time			11	
$t_r$	Turn-on Rise Time			17	
$T_d(off)$	Turn-off Delay Time			37	
$t_f$	Turn-off Fall Time			20	
$t_{off}$	Turn-off Time				60

### Typical Characteristics

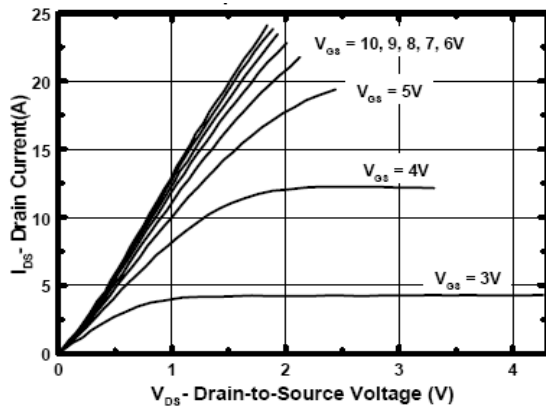


Figure 1. Output Characteristics

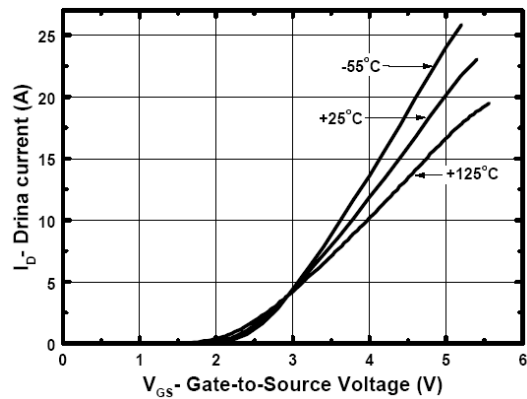


Figure 2. Transfer Characteristics

### Typical Characteristics

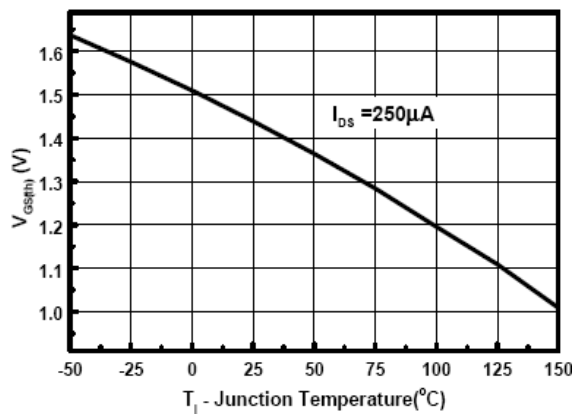


Figure 3. Gate Threshold Variation with Temperature

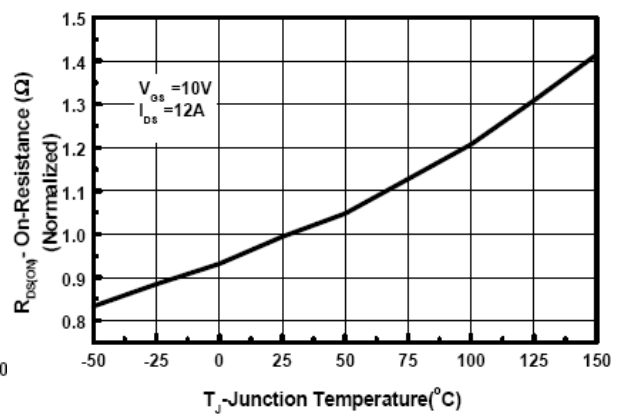


Figure 4. On-Resistance Variation with Temperature

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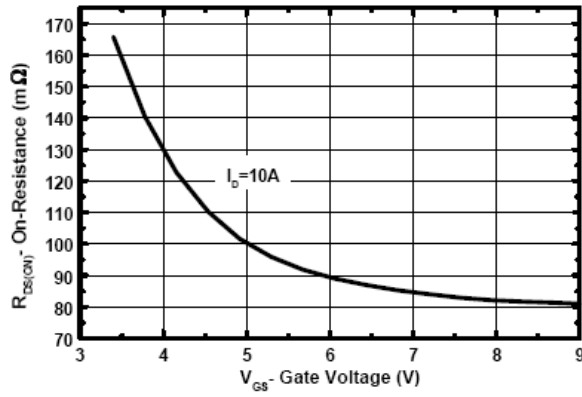


Figure 5. On-Resistance vs. Gate-to-Source Voltage

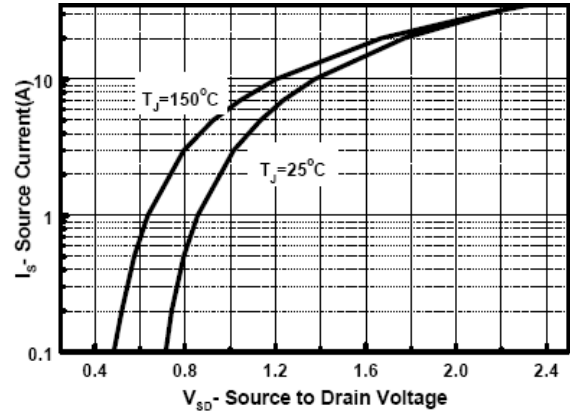
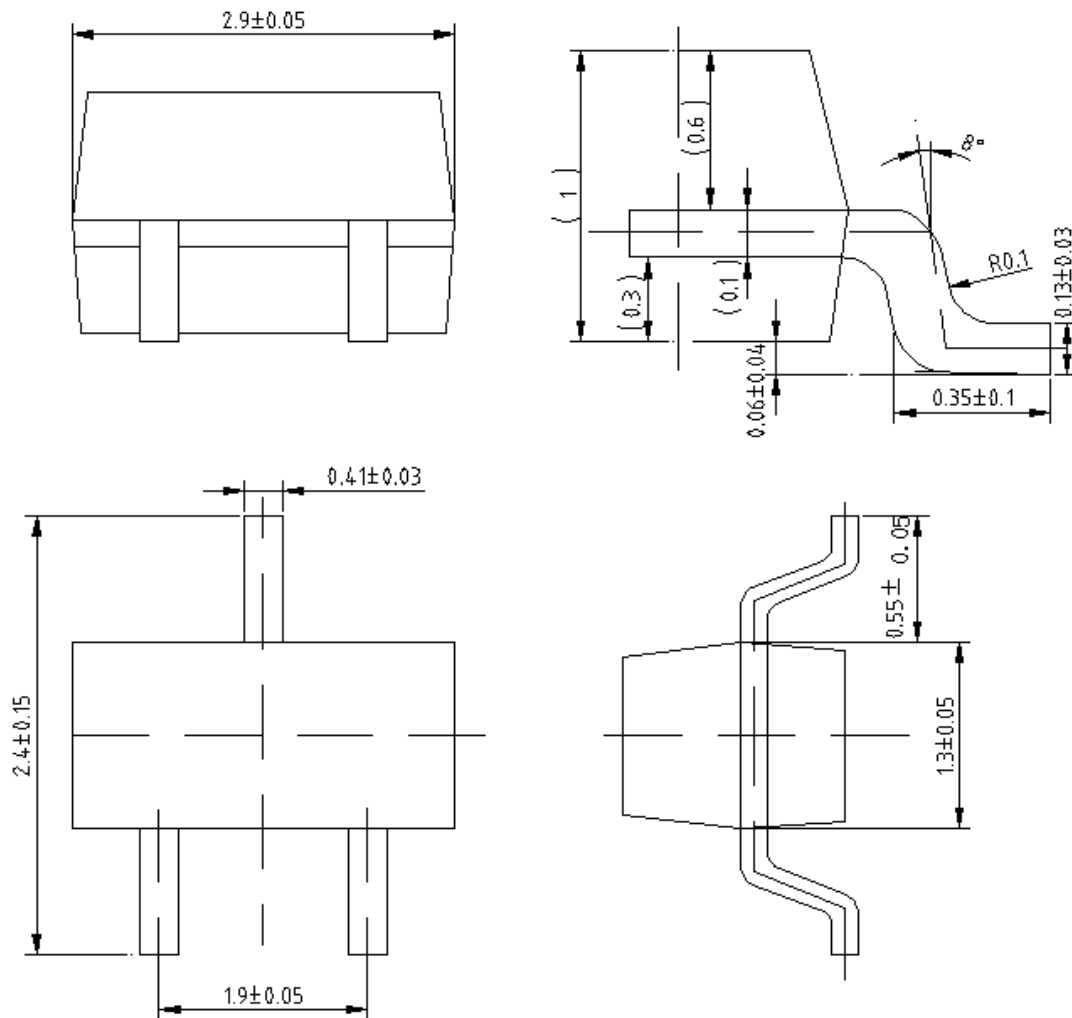


Figure 6. Source-Drain Diode Forward

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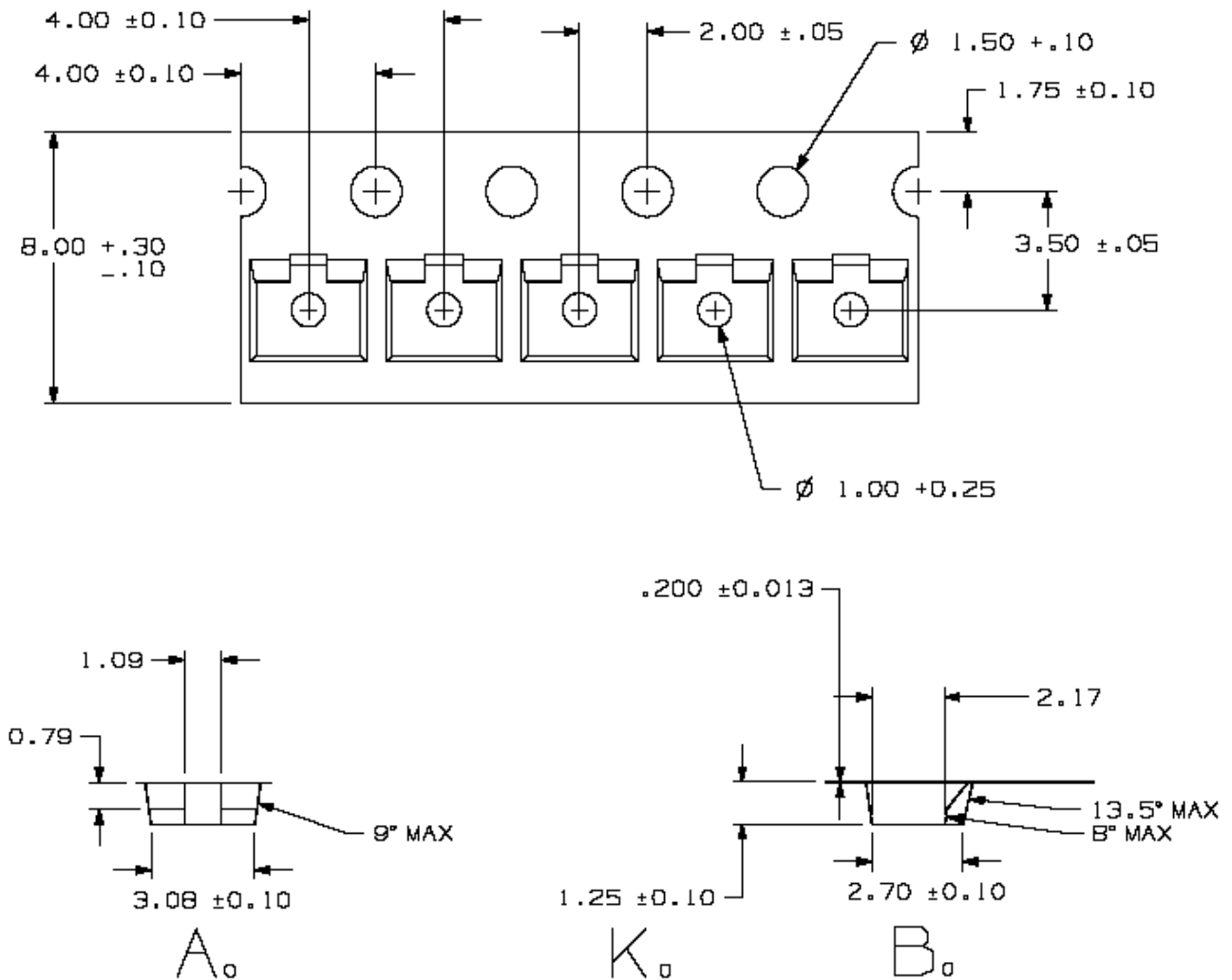
Package Outline Dimensions (UNIT: mm)

SOT-23



## N-Channel Enhancement Mode MOSFET RC3400A

### SOT-23 Carrier Tape



# N-Channel Enhancement Mode MOSFET RC3400A

## SOT-23 Carrier Reel

