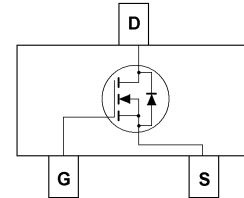


N-Channel Enhancement Mode MOSFET

Feature

- 30V/3.0A, $R_{DS(ON)} = 45\text{m}\Omega(\text{MAX}) @V_{GS} = 10\text{V}$.
- $R_{DS(ON)} = 50\text{m}\Omega(\text{MAX}) @V_{GS} = 4.5\text{V}$.
- $R_{DS(ON)} = 65\text{m}\Omega(\text{MAX}) @V_{GS} = 2.5\text{V}$.
- Super High dense cell design for extremely low $R_{DS(ON)}$.
- Reliable and Rugged.
- SOT-23 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}	30	V
Gate-Source Voltage	V_{GS}	± 12	V
Drain Current-Continuous	I_D	3.0	A

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

Parameter	Symbol	Test Conditions	Min	Typ.	Max	Units
Off Characteristics						
Drain to Source Breakdown Voltage	BVDSS	$V_{GS}=0\text{V}, I_D=250\mu\text{A}$	30	-	-	V
Zero-Gate Voltage Drain Current	IDSS	$V_{DS}=30\text{V}, V_{GS}=0\text{V}$	-	-	1	μA
Gate Body Leakage Current, Forward	IGSSF	$V_{GS}=12\text{V}, V_{DS}=0\text{V}$	-	-	100	nA
Gate Body Leakage Current, Reverse	IGSSR	$V_{GS}=-12\text{V}, V_{DS}=0\text{V}$	-	-	-100	nA
On Characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\mu\text{A}$	0.6	-	1.5	V
Static Drain-source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=3.0\text{A}$	-	40	45	$\text{m}\Omega$
		$V_{GS}=4.5\text{V}, I_D=3\text{A}$	-	55	60	$\text{m}\Omega$
		$V_{GS}=2.5\text{V}, I_D=2\text{A}$	-	65	70	$\text{m}\Omega$
Drain-Source Diode Characteristics and Maximum Ratings						
Drain-Source Diode Forward Voltage	VSD	$V_{GS}=0\text{V}, I_S=1.25\text{A}$			1.2	V

Dynamic							
Q _g	Total Gate Charge	V _{DS} =15V, V _{GS} =10V, I _D =2A		8.5	12	nC	
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 =6Ω			40	ns	
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

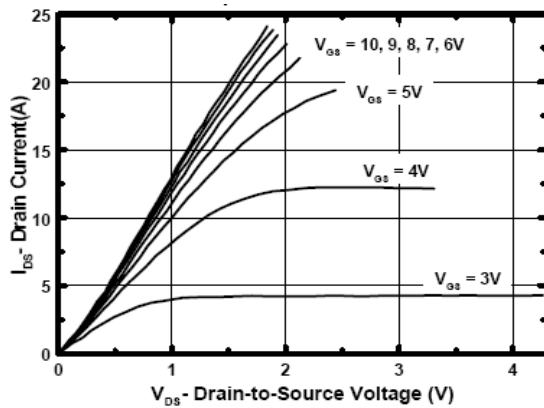


Figure 1. Output Characteristics

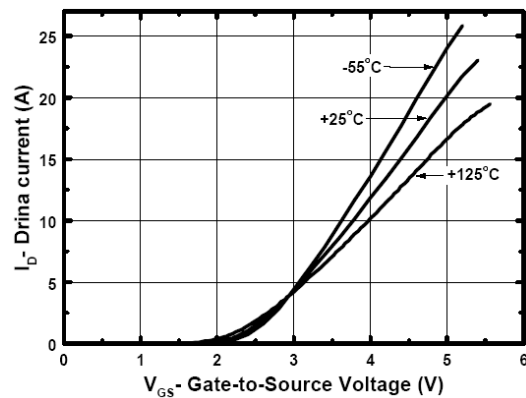


Figure 2. Transfer Characteristics

Typical Characteristics

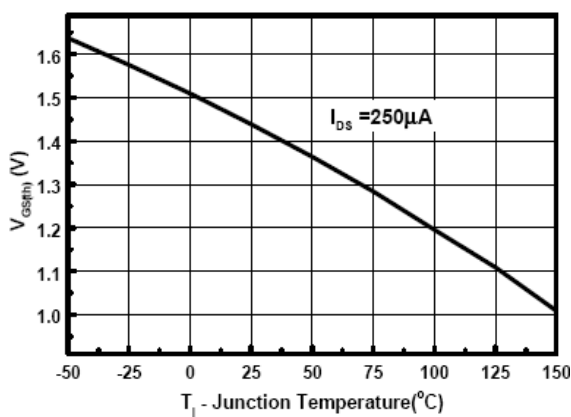


Figure 3. Gate Threshold Variation with Temperature

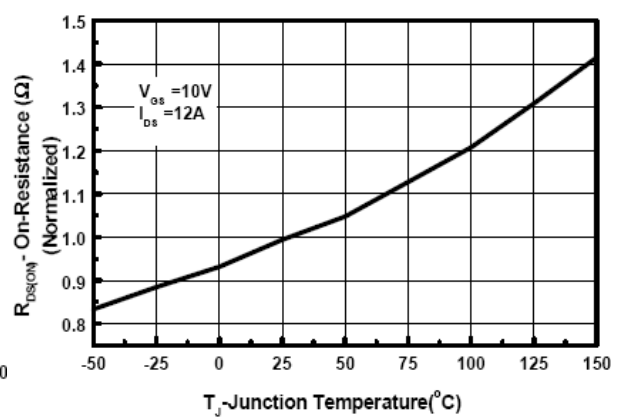


Figure 4. On-Resistance Variation with Temperature

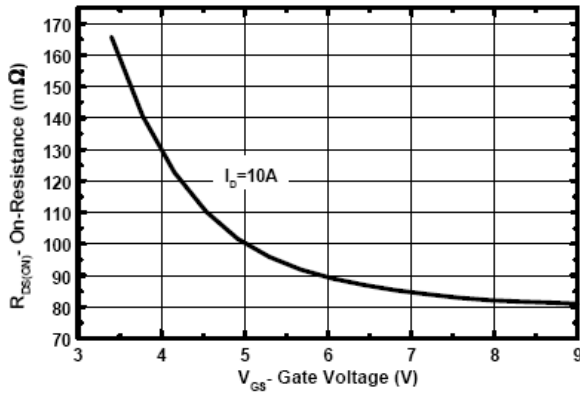


Figure 5. On-Resistance vs. Gate-to-Source Voltage

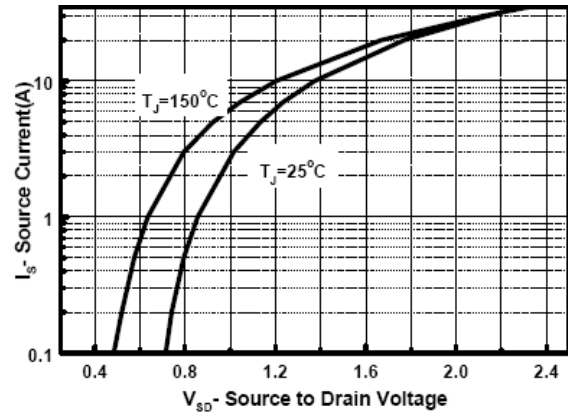
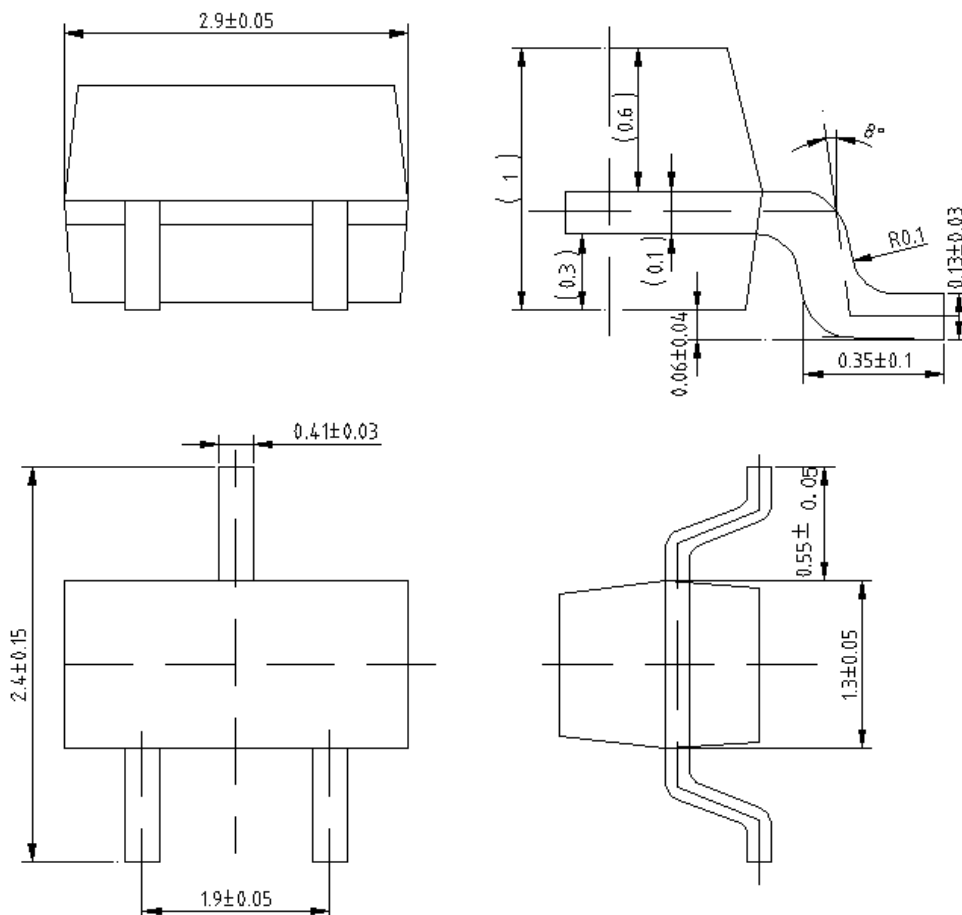


Figure 6. Source-Drain Diode Forward

Package Outline Dimensions (UNIT: mm)

SOT-23



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