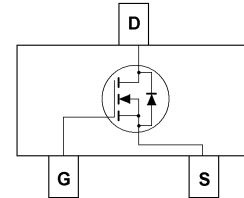


N-Channel Enhancement Mode MOSFET

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	$V_{DD}=15V, I_D=2A, V_{GS}=10V, R_G=6\Omega$			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

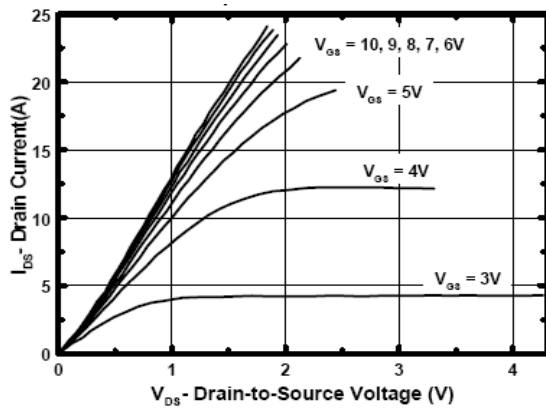


Figure 1. Output Characteristics

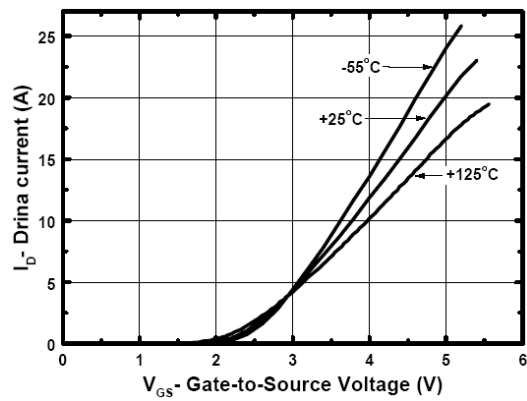


Figure 2. Transfer Characteristics

Typical Characteristics

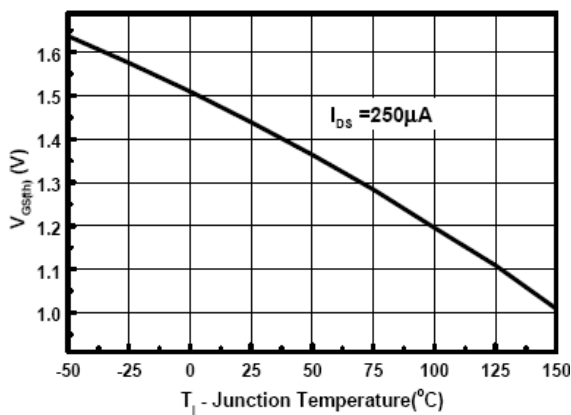


Figure 3. Gate Threshold Variation with Temperature

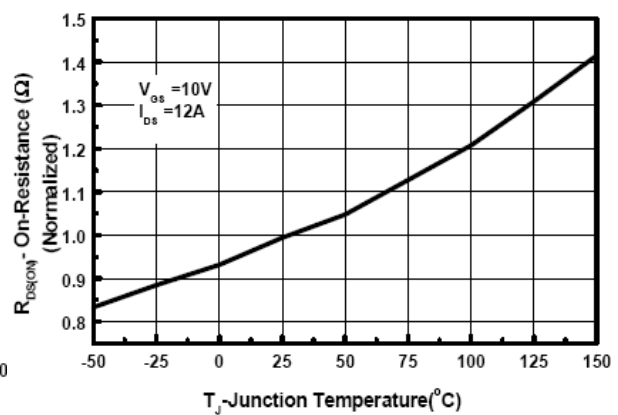


Figure 4. On-Resistance Variation with Temperature

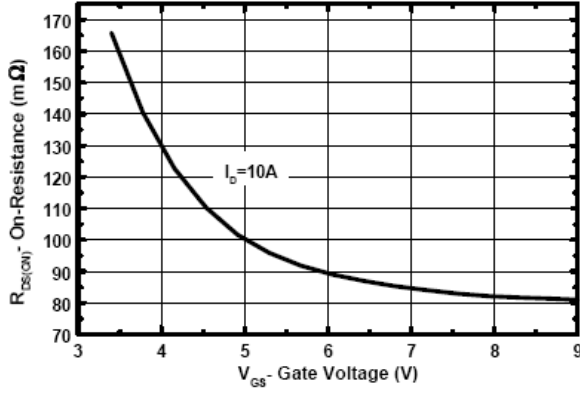


Figure 5. On-Resistance vs. Gate-to-Source Voltage

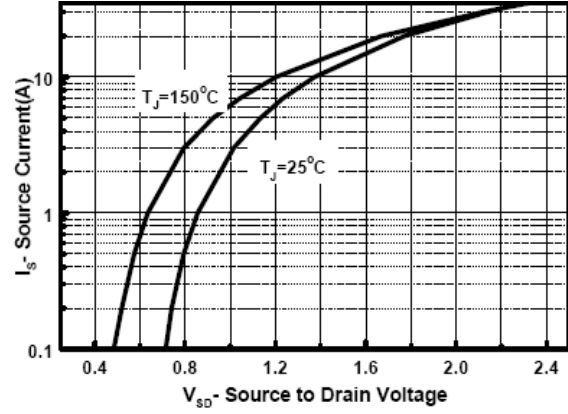


Figure 6. Source-Drain Diode Forward

Package Outline Dimensions (UNIT: mm)

SOT-23

