

## N-Channel Enhancement Mode MOSFET

### Feature

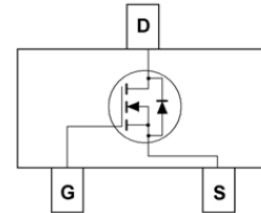
- 20V/3.0A,  $R_{DS(ON)} = 80\text{m}\Omega(\text{MAX}) @ V_{GS} = 4.5\text{V}$ .  
 $R_{DS(ON)} = 90\text{m}\Omega(\text{MAX}) @ V_{GS} = 2.5\text{V}$ .
- Super High dense cell design for extremely low  $R_{DS(ON)}$ .
- Reliable and Rugged.
- SOT-23 for Surface Mount Package.

### Applications

- Power Management
- Portable Equipment and Battery Powered Systems.



SOT-23



### 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	$V_{GS}$	$\pm 8$	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
<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	$I_{DSS}$	$V_{DS}=12\text{V}, V_{GS}=0\text{V}$	-	-	1	$\mu\text{A}$
Gate Body Leakage Current, Forward	$I_{GSSF}$	$V_{GS}=8\text{V}, V_{DS}=0\text{V}$	-	-	100	nA
Gate Body Leakage Current, Reverse	$I_{GSSR}$	$V_{GS}=-8\text{V}, V_{DS}=0\text{V}$	-	-	-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	$R_{DS(ON)}$	$V_{GS}=4.5\text{V}, I_D=3.6\text{A}$	-	70	80	$\text{m}\Omega$
		$V_{GS}=2.5\text{V}, I_D=3.1\text{A}$	-	75	90	$\text{m}\Omega$
<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

## Typical Characteristics

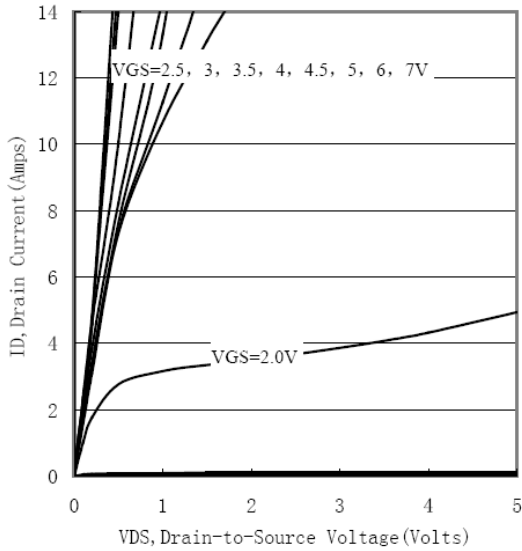


Figure 1. Output Characteristics

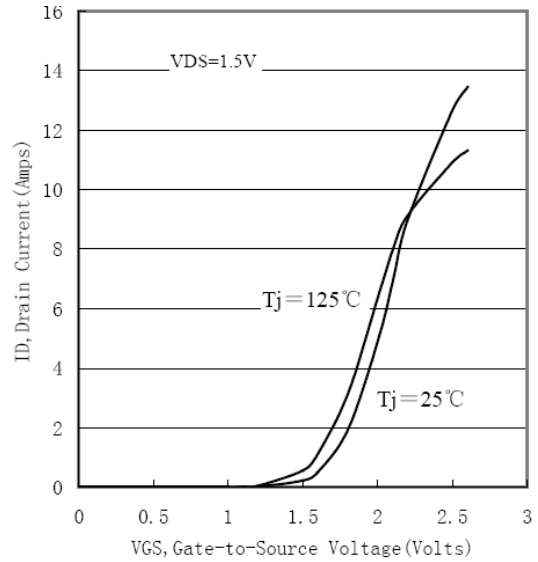


Figure 2. Transfer Characteristics

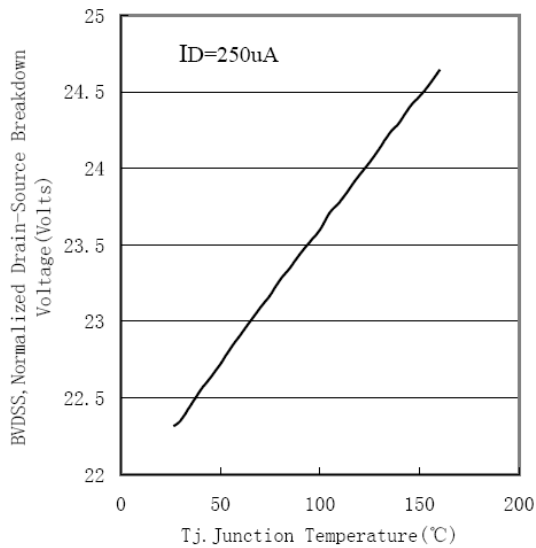


Figure 3. Breakdown Voltage Variation with Temperature

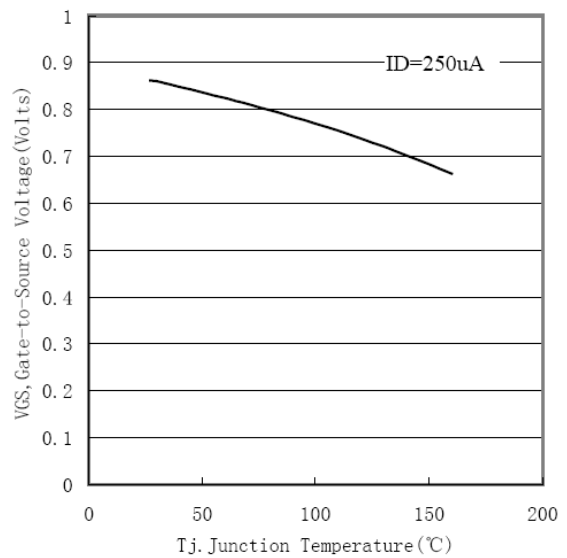
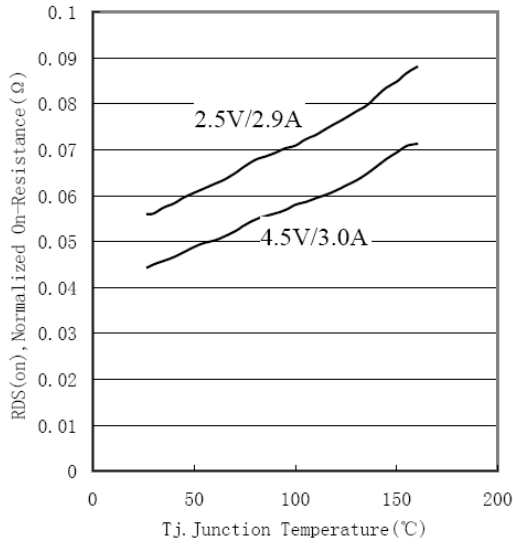
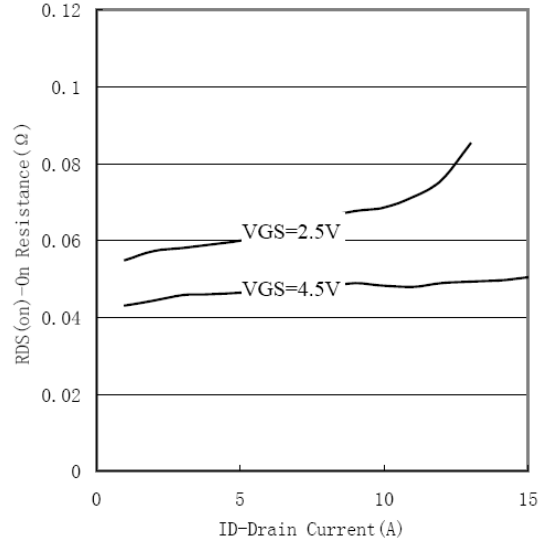


Figure 4. Gate Threshold Variation with Temperature

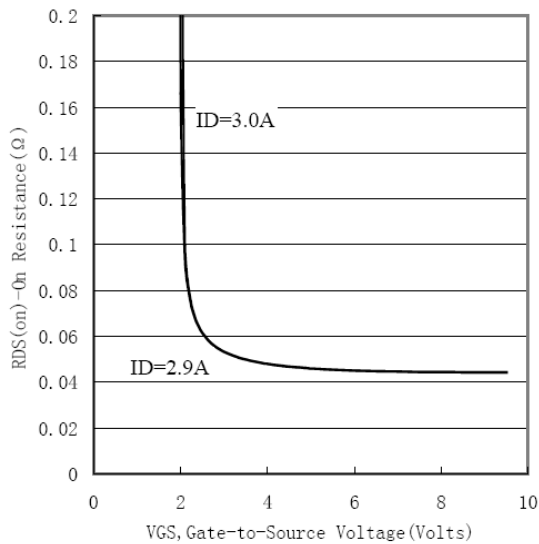
## Typical Characteristics



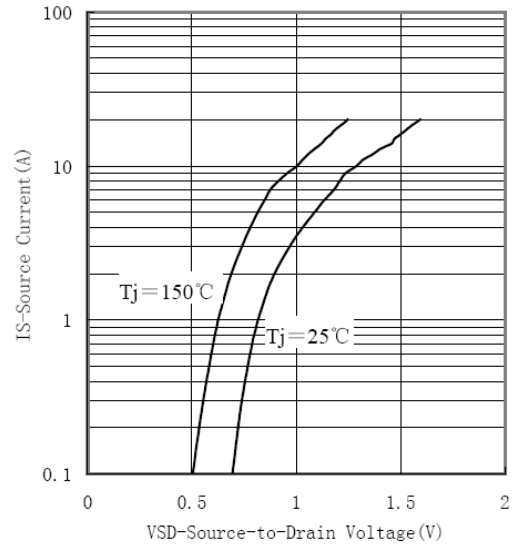
**Figure 5. On-Resistance Variation with Temperature**



**Figure 6. On-Resistance vs. Drain Current**



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



**Figure 8. Source-Drain Diode Forward Voltage**