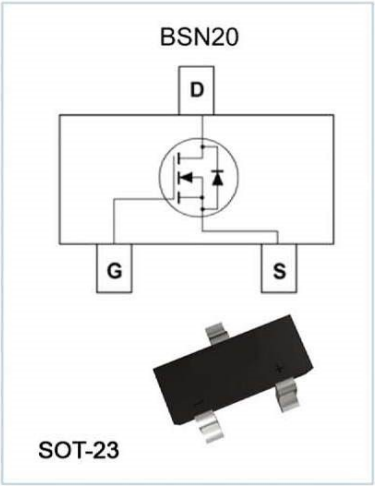
N-Channel Enhancement Mode MOSFET

Feature

- 50V/0.1A, $R_{DS(ON)}$ = 3.5 Ω (MAX) @V_{GS} = 5V Id = 0.1A
  $R_{DS(ON)}$ = 10 Ω (MAX) @V_{GS} = 2.75V. Id = 0.1A
- Super High dense cell design for extremely low $R_{DS(ON)}$.
- Reliable and Rugged.
- Low Threshold Voltage (0.5V—1.5V) Make it Ideal for Low Voltage Applications.
- SOT-23 for Surface Mount Package.



Absolute Maximum Rating (Ta = 25 °C Unless Otherwise Noted)

Symbol	Parameter	Rating	Unit
V_{DSS}	Drain-Source Voltage	50	V
V_{GSS}	Gate-Source Voltage	± 20	
I_D	Drain Current-Continuous	0.1	A

Electrical Characteristics (Ta = 25 °C Unless Otherwise Noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
Static Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS} = 0 V, I_{DS} = 250 μA	50	-	-	V
		V_{GS} = 0 V, I_{DS} = 10 μA	50	-	-	
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS}, I_{DS} = 250 μA	0.5	-	1.5	V
I_{DSS}	Drain Leakage Current	V_{DS} = 50 V, V_{GS} = 0V	-	-	500	nA
		V_{DS} = 25 V, V_{GS} = 0V	-	-	100	μA
I_{GSS}	Gate Leakage Current	V_{GS} = ±20 V, V_{DS} = 0 V	-	-	± 300	μA
$R_{DS(ON)}$ [a]	On-State Resistance	V_{GS} = 5 V, I_{DS} = 0.2 A	-	-	3.5	Ω
		V_{GS} = 2.75 V, I_{DS} = 0.2 A	-	-	10	
C_{iss}	Input Capacitance	VDS = 10 V, VGS = 0 V f = 1 MHz	-	21.8	40	pF
C_{oss}	Output Capacitance		-	5.6	15	
C_{rss}	Reverse Transfer Capacitance		-	3.3	10	
Diode Characteristics						
V_{SD}	Diode Forward Voltage	I_{SD} = 0.2 A, V_{GS} = 0 V	-	-	2.5	V

Typical Characteristics

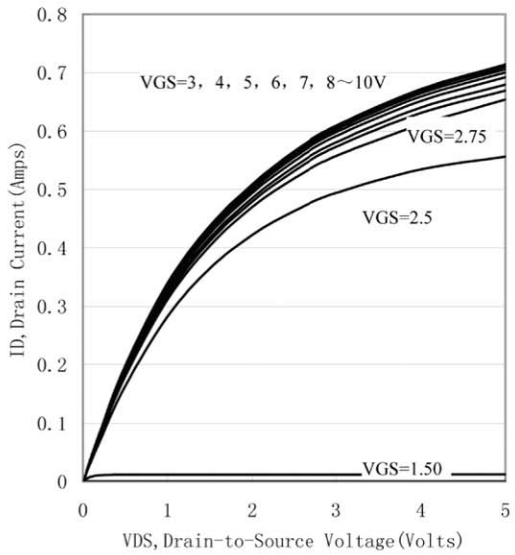


Figure 1. Output Characteristics

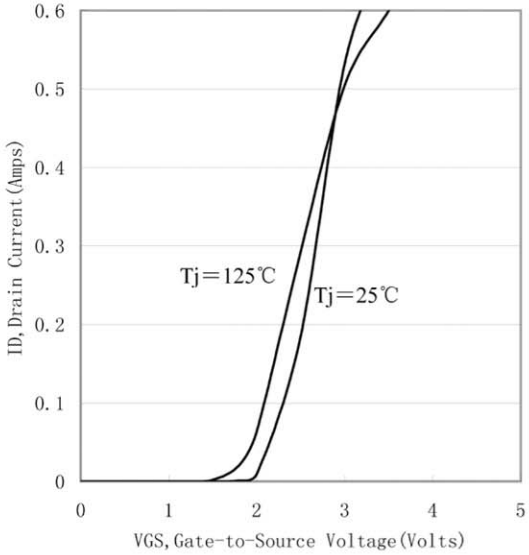


Figure 2. Transfer Characteristics

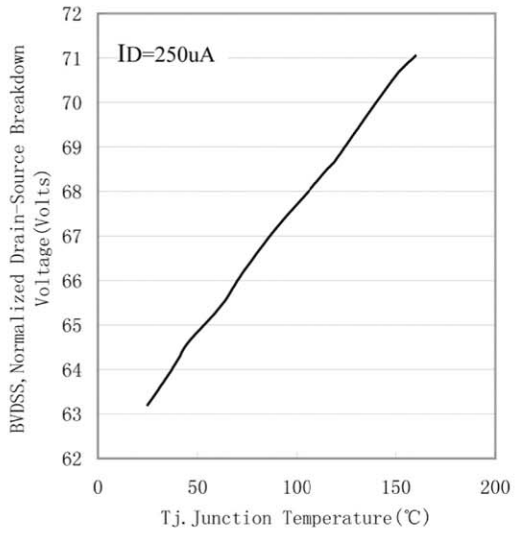


Figure 3. Breakdown Voltage Variation with Temperature

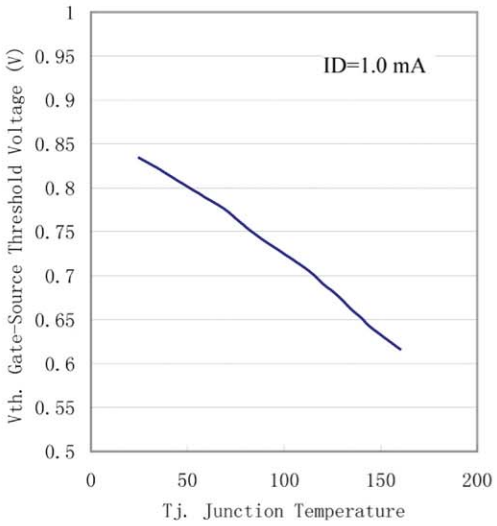


Figure 4. Gate Threshold Variation with Temperature

Typical Characteristics

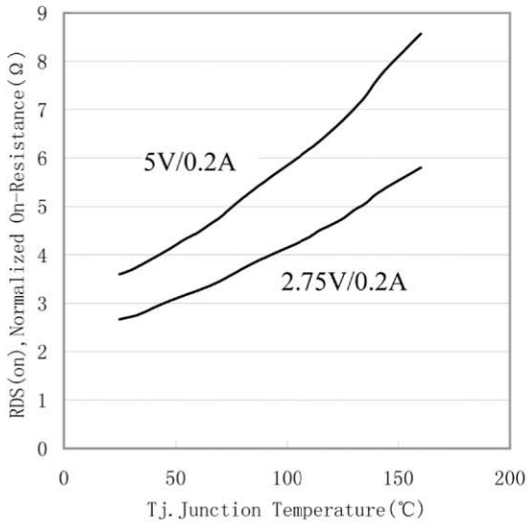


Figure 5. On-Resistance Variation with Temperature

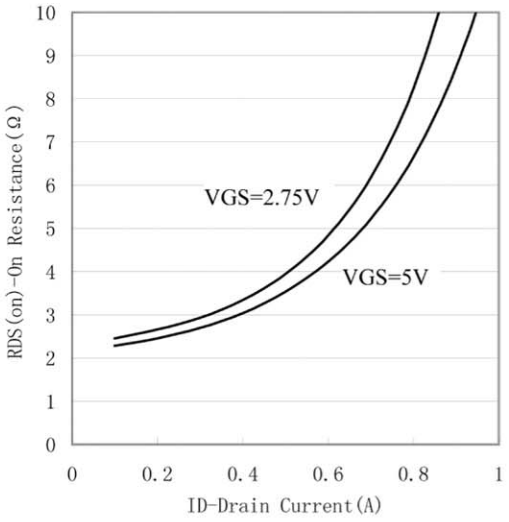


Figure 6. On-Resistance vs. Drain Current

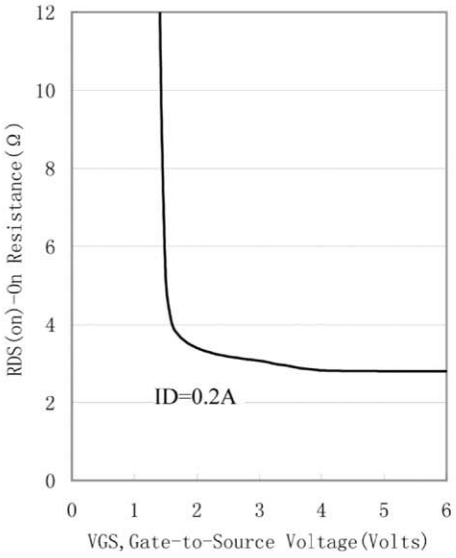


Figure 7. On-Resistance vs. Gate-to-Source Voltage

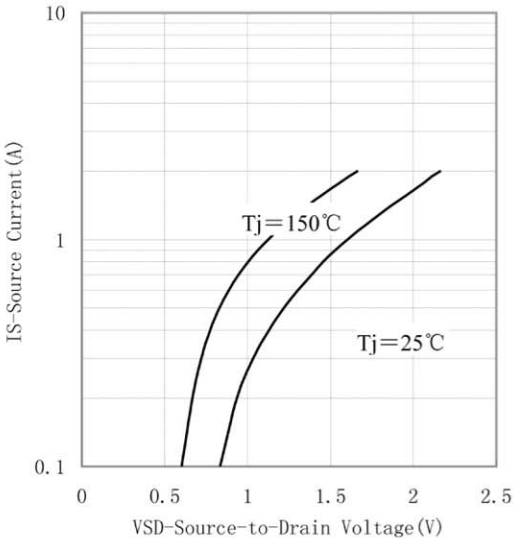
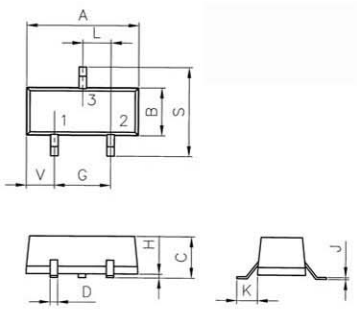


Figure 8. Source-Drain Diode Forward Voltage

Outline dimensions



Unit： mm

	SOT-23	
	min	max
A	2.80	3.04
B	1.20	1.40
C	0.89	1.13
D	0.30	0.50
G	1.78	2.04
H	0.01	0.10
J	0.08	0.18
K	0.45	0.60
L	0.89	1.02
S	2.10	2.50
V	0.42	0.60