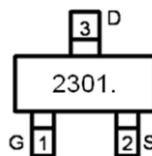
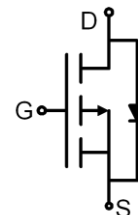


**Main Product Characteristics:**

$V_{DSS}$	-20V
$R_{DS(on)}$	62m $\Omega$ (typ.)
$I_D$	-2.6A


**SOT-23**

**Marking and Pin Assignments**

**Schematic Diagram**
**Features and Benefits**

- Advanced MOSFET process technology
- Special designed for PWM, load switching and general purpose applications
- Ultra low on-resistance with low gate charge
- Fast switching and reverse body recovery
- AEC-Q101 qualified


**Description:**

It utilizes the latest processing techniques to achieve the high cell density and reduces the on-resistance with high repetitive avalanche rating. These features combine to make this design an extremely efficient and reliable device for use in power switching application and a wide variety of other applications.

**Absolute Max Rating:**

Symbol	Parameter	Max.	Units
$I_D @ T_C = 25^\circ\text{C}$	Continuous Drain Current, $V_{GS} @ 10\text{V}$ ①	-2.6	A
$I_{DM}$	Pulsed Drain Current②	-10	
$P_D @ T_C = 25^\circ\text{C}$	Power Dissipation③	1.25	W
$V_{DS}$	Drain-Source Voltage	-20	V
$V_{GS}$	Gate-to-Source Voltage	$\pm 12$	V
$T_J \quad T_{STG}$	Operating Junction and Storage Temperature Range	-55 to +150	$^\circ\text{C}$

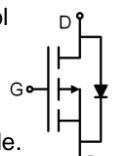
## Thermal Resistance

Symbol	Characterizes	Typ.	Max.	Units
$R_{\theta JC}$	Junction-to-case <sup>③</sup>	—	100	°C/W

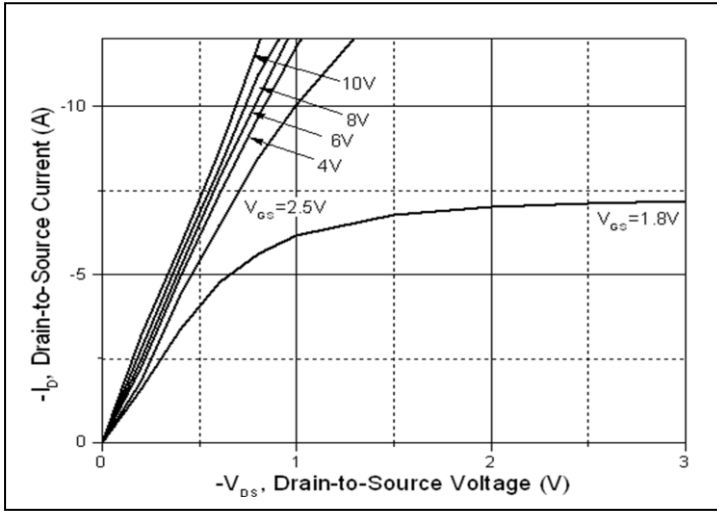
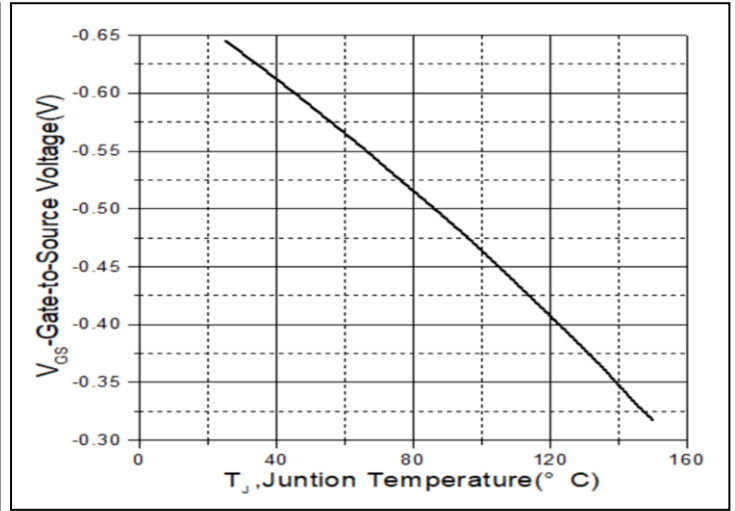
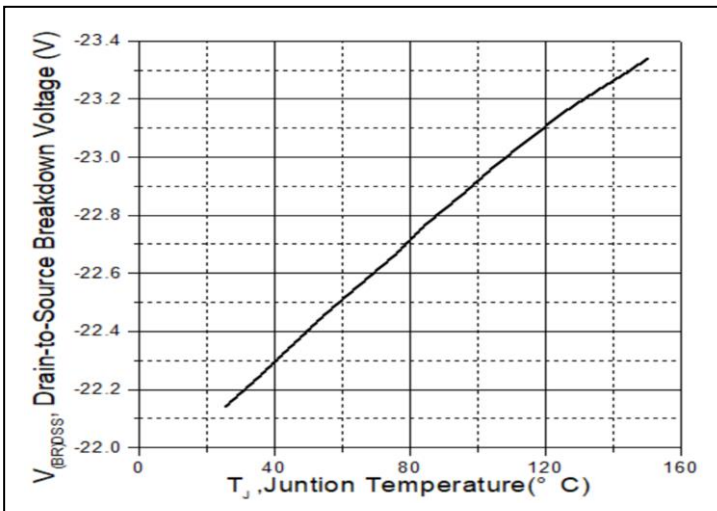
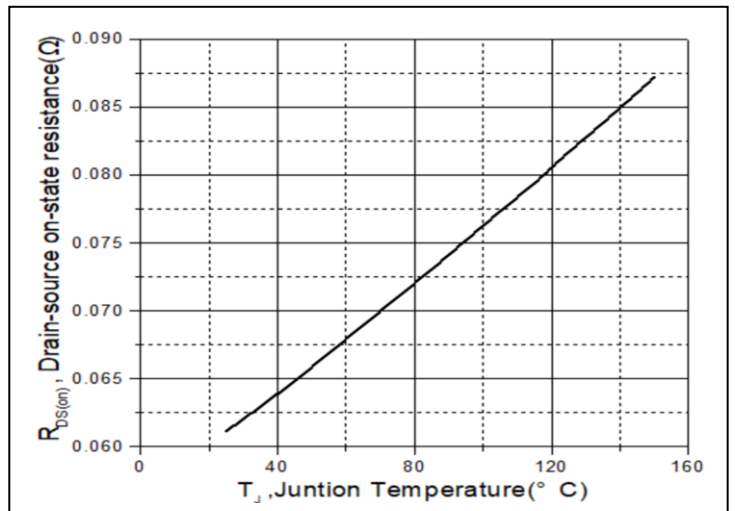
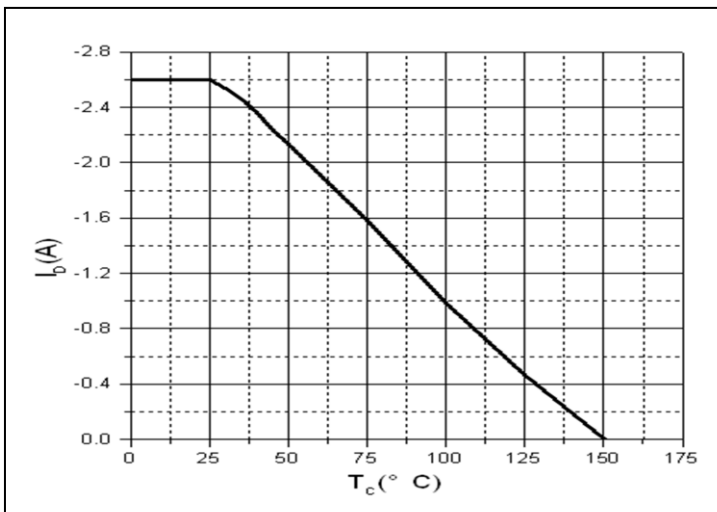
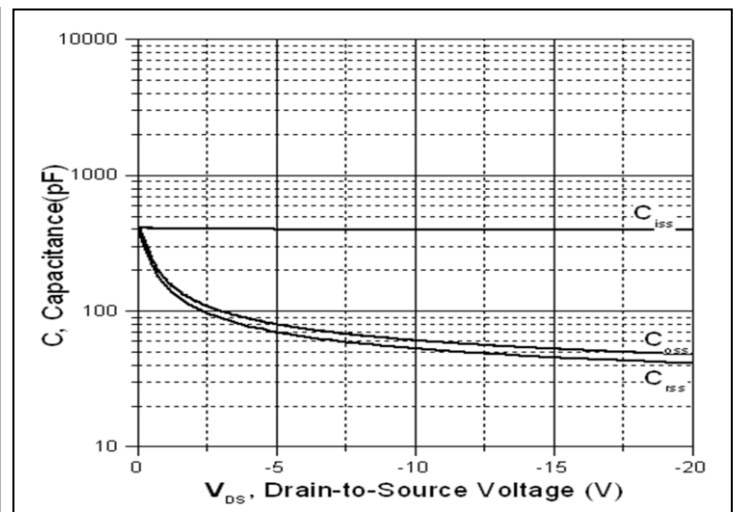
## Electrical Characterizes @ $T_A=25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
$V_{(BR)DSS}$	Drain-to-Source breakdown voltage	-20	—	—	V	$V_{GS} = 0V, I_D = -250\mu A$
$R_{DS(on)}$	Static Drain-to-Source on-resistance	—	62	75	m $\Omega$	$V_{GS}=-4.5V, I_D=-2A$
		—	77	95	m $\Omega$	$V_{GS}=-2.5V, I_D=-1.8A$
$V_{GS(th)}$	Gate threshold voltage	-0.4	—	-1	V	$V_{DS} = V_{GS}, I_D = -250\mu A$
$I_{DSS}$	Drain-to-Source leakage current	—	—	-1	$\mu A$	$V_{DS} = -20V, V_{GS} = 0V$
$I_{GSS}$	Gate-to-Source forward leakage	—	—	100	nA	$V_{GS} = 12V$
		—	—	-100		$V_{GS} = -12V$
$Q_g$	Total gate charge	—	5.8	—	nC	$I_D = -2.3A,$ $V_{DS}=-6V,$ $V_{GS} = -4.5V$
$Q_{gs}$	Gate-to-Source charge	—	0.8	—		
$Q_{gd}$	Gate-to-Drain("Miller") charge	—	1.6	—		
$t_{d(on)}$	Turn-on delay time	—	7	—	ns	$V_{GS}=-4.5V, V_{DD}=-20V,$ $R_{GEN}=3\Omega$ $R_L=10\Omega$
$t_r$	Rise time	—	14	—		
$t_{d(off)}$	Turn-Off delay time	—	20	—		
$t_f$	Fall time	—	7	—		
$C_{iss}$	Input capacitance	—	400	—	pF	$V_{GS} = 0V$ $V_{DS} = -20V$ $f = 1MHz$
$C_{oss}$	Output capacitance	—	55	—		
$C_{riss}$	Reverse transfer capacitance	—	45	—		

## Source-Drain Ratings and Characteristics

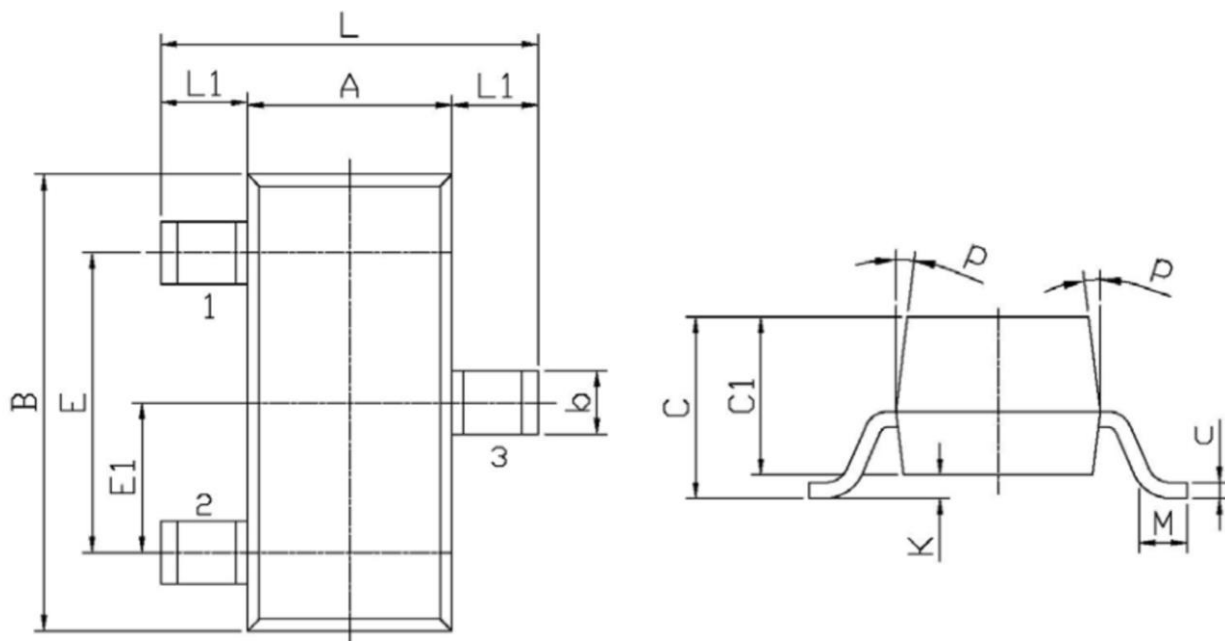
Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
$I_S$	Continuous Source Current (Body Diode)	—	—	-2.6	A	MOSFET symbol showing the integral reverse p-n junction diode. 
$I_{SM}$	Pulsed Source Current (Body Diode)	—	—	-10	A	
$V_{SD}$	Diode Forward Voltage	—	-0.8	-1.2	V	$I_S=-1A, V_{GS}=0V$



**Typical Electrical and Thermal Characteristics**

**Figure1. Typical Output Characteristics**

**Figure2. Vth vs. Junction Temperature**

**Figure3. Drain-to-Source Breakdown Voltage vs. Junction Temperature**

**Figure4. R<sub>DS(on)</sub> vs. Drain Current**

**Figure5. Drain Current vs. Case Temperature**

**Figure6. Capacitance**

**Mechanical Data:**

SOT-23 Package Outline(Unit:mm)



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.2	2.7	C	1.30Max	
L1	0.45	0.65	C1	0.90	1.20
A	1.15	1.50	c	0.05	0.20
B	2.70	3.10	K	0	0.10
E	1.70	2.10	M	0.20MIN	
E1	0.85	1.05	P	7°	
b	0.35	0.55			

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