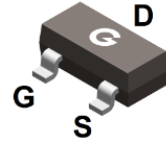
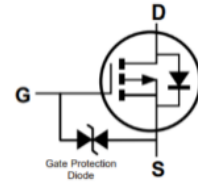


Features

- Extremely low threshold voltage
- ESD protected
- Advanced trench cell design

HF



SOT-23

Mechanical Data

- Case: SOT-23
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BL1015	SOT-23	3000 pcs / Tape & Reel	1015

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-to-Source Voltage	V _{DSS}	-30	V
Gate-to-Source Voltage	V _{GSS}	±10	V
Continuous Drain Current	I _D	-0.33	A
Pulsed Drain Current	I _{DM}	-1.32	A
Power Dissipation(T _A = 25°C)	P _D	0.42	W
Operating Junction Temperature Range	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Thermal Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance Junction-to-Air *1	R _{θJA}	-	-	300	°C/W

Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
V_{DSS}	Drain-Source Breakdown Voltage	$V_{GS} = 0V, I_D = -250\mu A$	-30	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = -30V, V_{GS} = 0V$	-	-	-1	μA
I_{GSS}	Gate-Body Leakage Current	$V_{GS} = \pm 8V, V_{DS} = 0V$	-	-	± 10	μA
On Characteristics						
$R_{DS(ON)}$	Drain-Source On-resistance ^{*2}	$V_{GS} = -4.5V, I_D = -0.3A$	-	-	2.5	Ω
		$V_{GS} = -2.5V, I_D = -0.2A$	-	-	2.9	Ω
		$V_{GS} = -1.8V, I_D = -0.1A$	-	-	5	Ω
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.4	-	-1.0	V
Dynamic Characteristics						
C_{ISS}	Input Capacitance	$V_{GS} = 0V$	-	50	-	pF
C_{OSS}	Output Capacitance	$V_{DS} = -10V$	-	6	-	
C_{RSS}	Reverse Transfer Capacitance	$f = 1.0MHz$	-	5	-	
Switching Characteristics						
$t_{d(ON)}$	Turn-on Delay Time ^{*3}	$V_{DD} = -10V, V_{GS} = -4.5V$ $R_G = 6\Omega, R_L = 150\Omega$ $I_D = -0.1A$	-	3.4	-	ns
t_r	Turn-on Rise Time ^{*3}		-	13	-	
$t_{d(OFF)}$	Turn-Off Delay Time ^{*3}		-	37	-	
t_f	Turn-Off Fall Time ^{*3}		-	23	-	
Q_G	Total Gate-Charge	$V_{DD} = -10V$	-	1.22	-	nC
Q_{GS}	Gate to Source Charge	$V_{GS} = -4.5V$	-	0.33	-	
Q_{GD}	Gate to Drain (Miller) Charge	$I_D = -0.1A$	-	0.22	-	
Source-Drain Diode Characteristics						
V_{SD}	Diode Forward Voltage ^{*2}	$I_{SD} = -0.3 A, V_{GS} = 0V$	-	-	-1.3	V

Notes:

- The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper
- The data tested by pulsed, pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$
- Guaranteed by design, not subject to production

Ratings and Characteristics Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

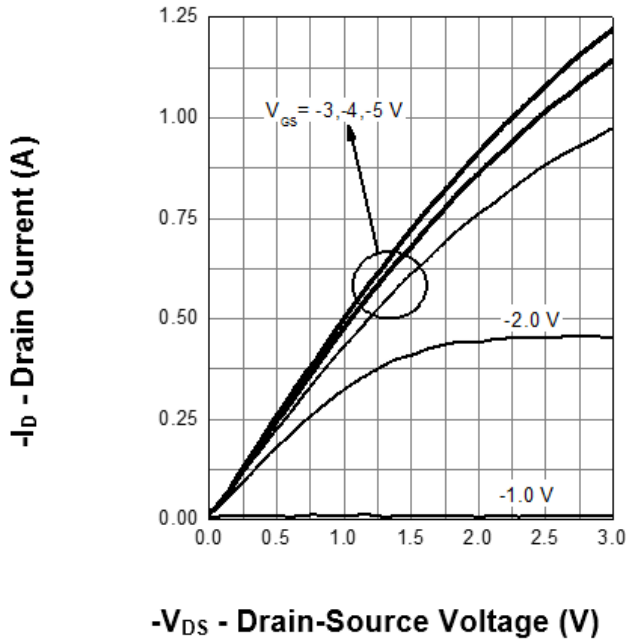


Fig. 1 Typical Output Characteristics

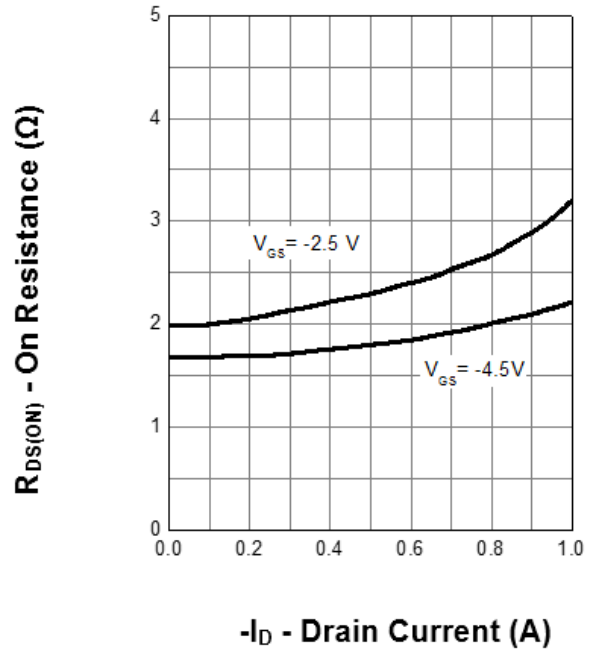


Fig. 2 On-Resistance vs. Drain Current and Gate Voltage

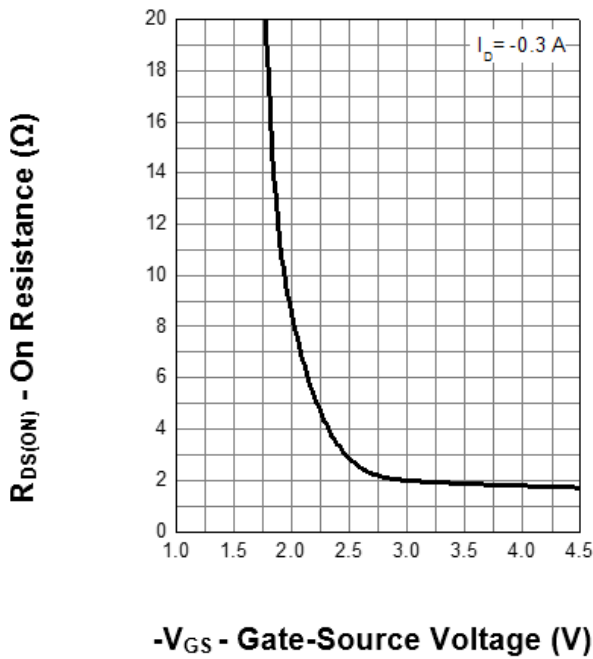


Fig. 3 On-Resistance vs. Gate-Source Voltage

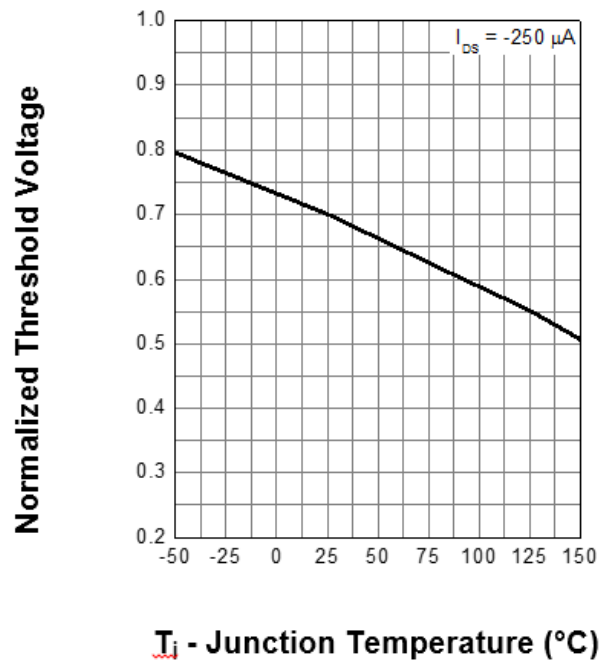


Fig. 4 Normalized $V_{GS(th)}$ vs. Junction Temperature

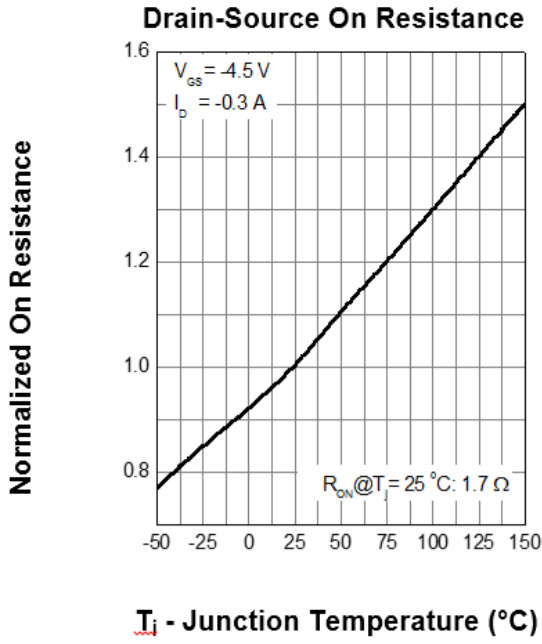


Fig. 5 Normalized On-Resistance vs. Junction Temperature

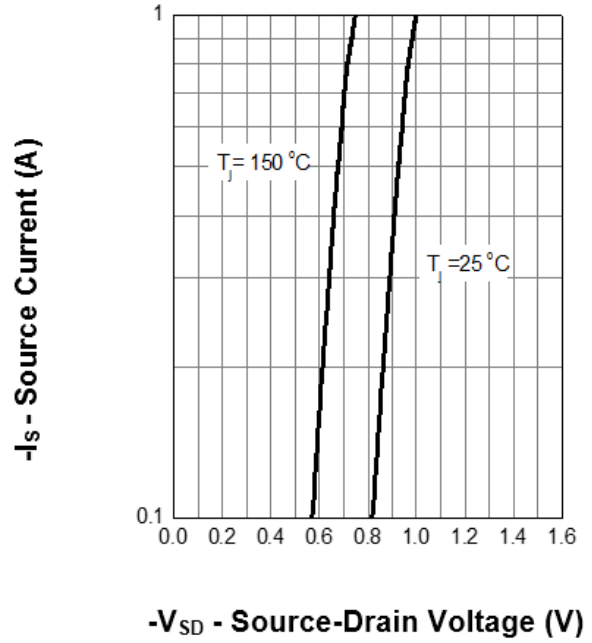


Fig. 6 Body-Diode Characteristics

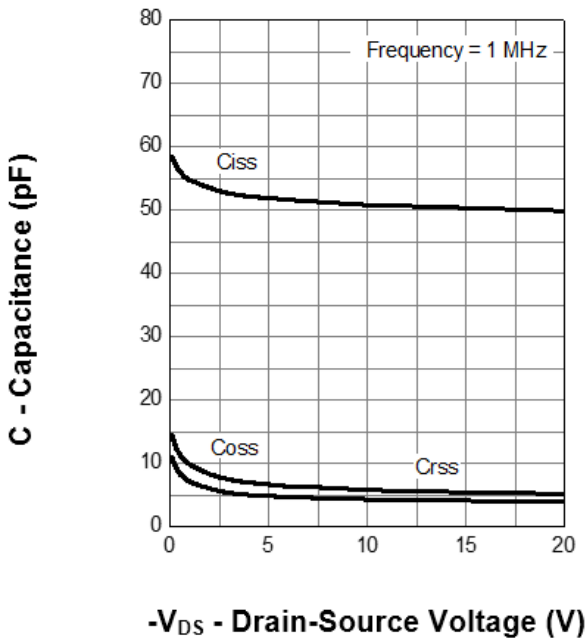


Fig. 7 Capacitance Characteristics

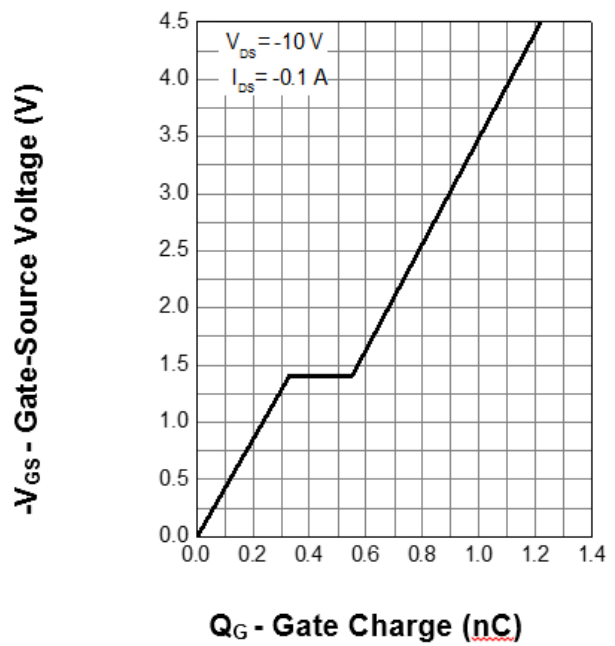
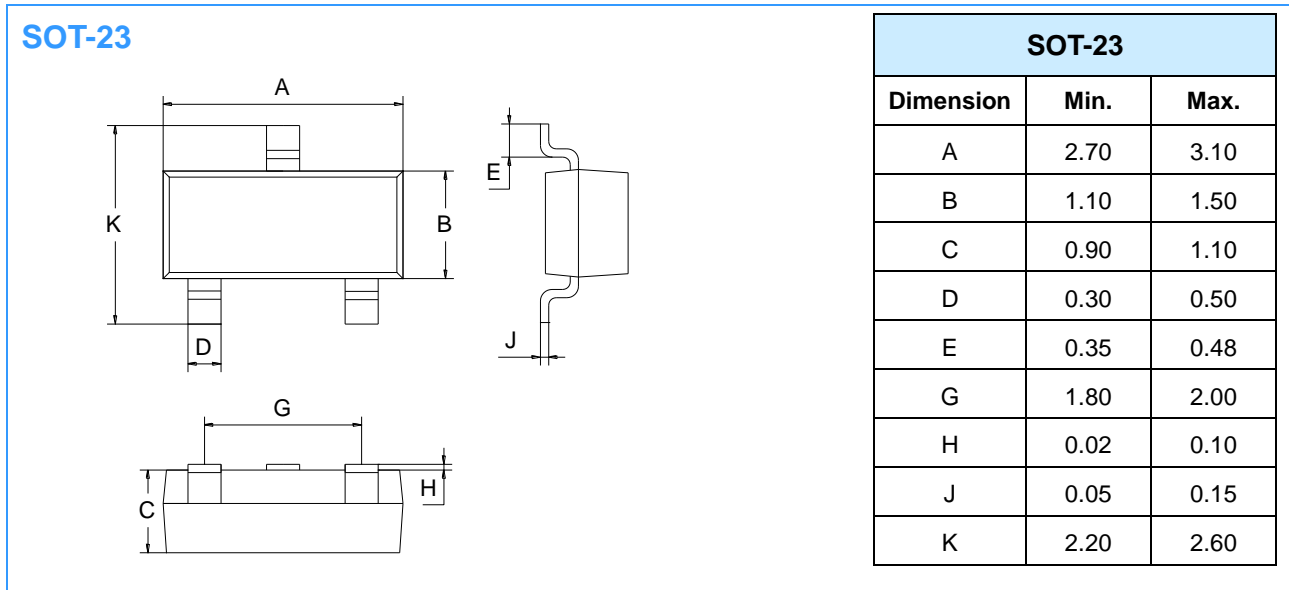
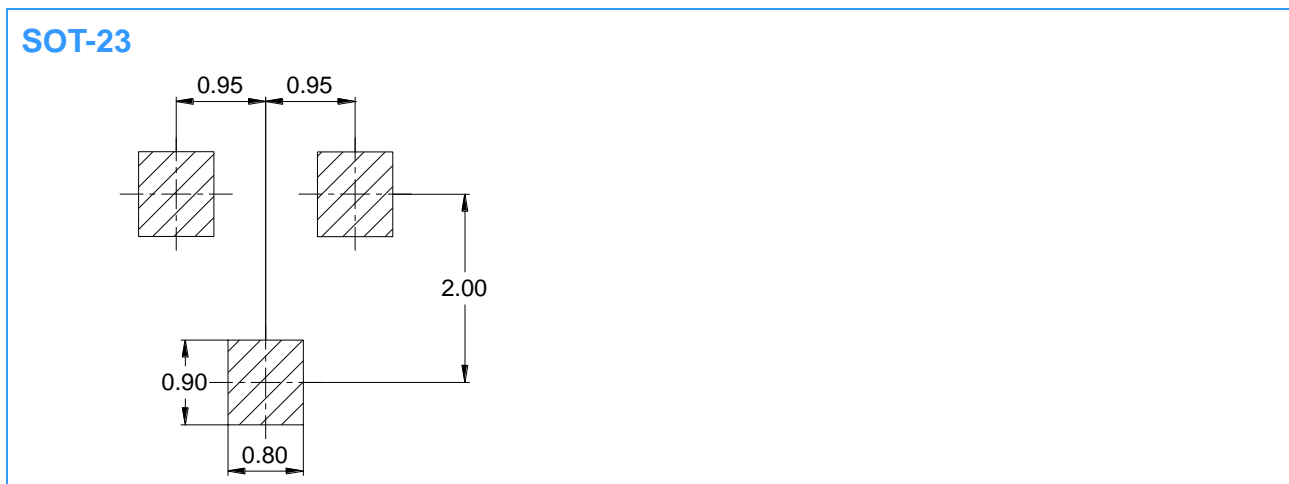


Fig. 8 Gate-Charge Characteristics

Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



Important Notice

Changzhou Galaxy Century Microelectronics (GME) reserves the right to make changes without further notice to any product information (copyrighted) herein to make corrections, modifications, improvements, or other changes. GME does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others.