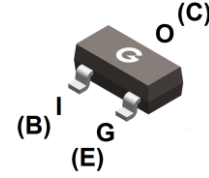
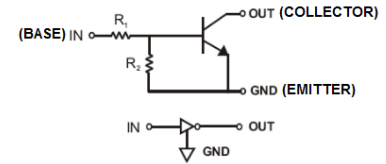


Features

- Epitaxial planar die construction
- Collector Current: 500mA
- Built-in biasing resistors (R_1 : 1k Ω , R_2 : 10k Ω)

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
DTD113ZCA	SOT-23	3000 pcs / Tape & Reel	G21

Maximum Ratings

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

Parameter	Symbol	Value	Unit
Supply Voltage	V_{CC}	50	V
Input Voltage	V_I	-5 to +10	V
Collector Current	I_C	500	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation ($T_A = 25^\circ\text{C}$)	P_D	200	mW
Thermal Resistance Junction-to-Air	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_J	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Input Voltage	$V_{I(\text{OFF})}$	$V_{CC} = 5\text{V}$, $I_O = 100\mu\text{A}$	0.3	-	-	V
Input Voltage	$V_{I(\text{ON})}$	$V_O = 0.3\text{V}$, $I_O = 20\text{mA}$	-	-	1.5	V
Output Voltage	$V_{O(\text{on})}$	$I_O = 50\text{mA}$, $I_I = 2.5\text{mA}$	-	-	0.3	V
Input Current	I_I	$V_I = 5\text{V}$	-	-	7.2	mA
Output Current	$I_{O(\text{off})}$	$V_{CC} = 50\text{V}$, $V_I = 0\text{V}$	-	-	0.5	μA
DC Current Gain	G_I	$V_O = 5\text{V}$, $I_O = 50\text{mA}$	82	-	-	-
Input Resistor	R_1		0.7	1	1.3	k Ω
Resistance ratio	R_2/R_1		8	10	12	-
Gain-Bandwidth Product	f_T	$V_{CE} = 10\text{V}$, $I_E = 50\text{mA}$ $f = 100\text{MHz}$	-	200	-	MHz

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

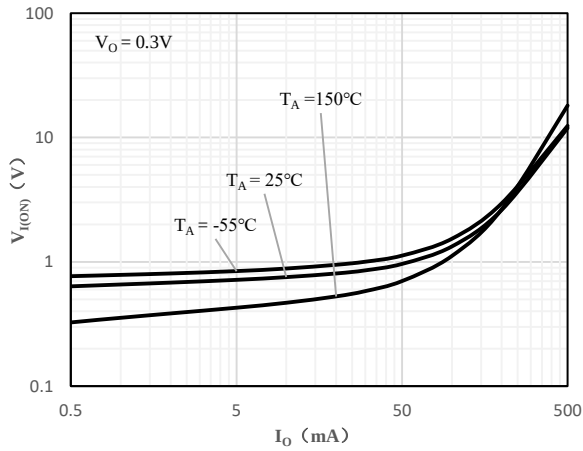


Fig 1 Input Voltage vs Output Current

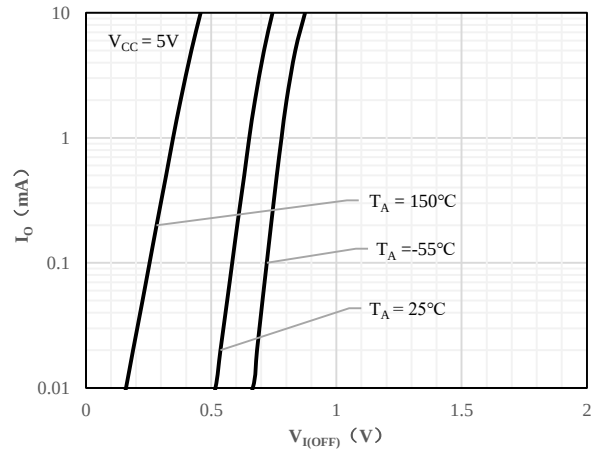


Fig 2 Output Current vs Input Voltage

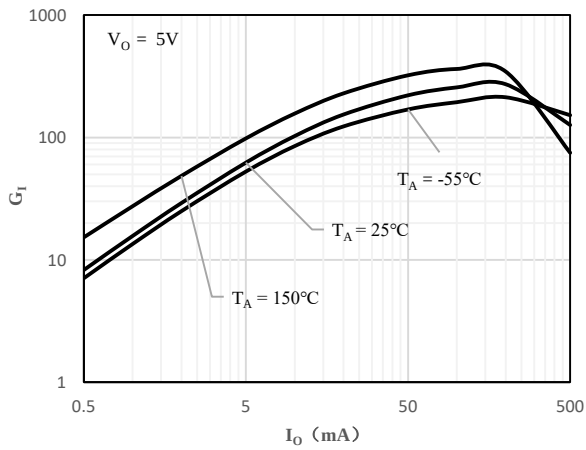


Fig 3 DC Current Gain vs Output Current

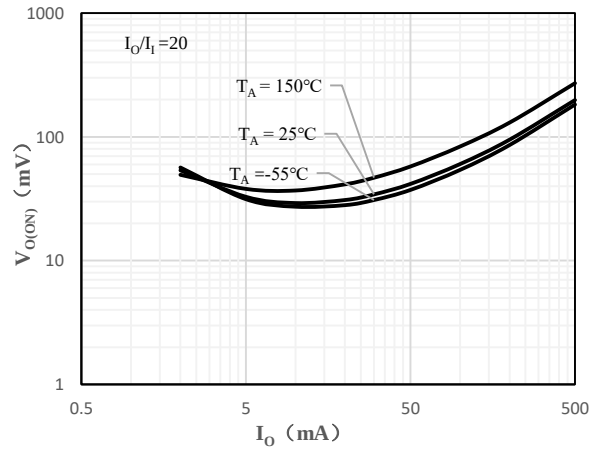


Fig 4 Output Voltage vs Output Current

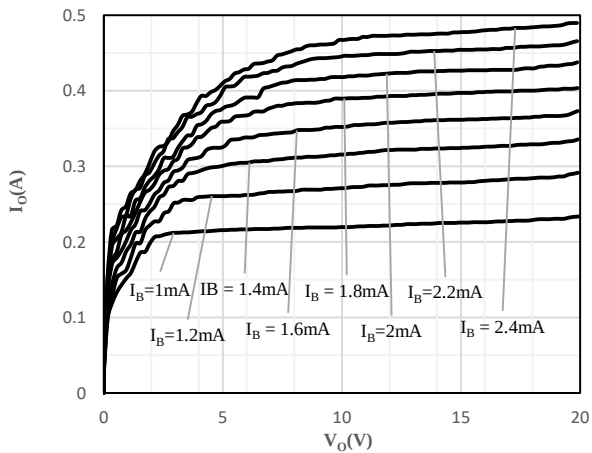


Fig 5 Output Current vs. Output Voltage

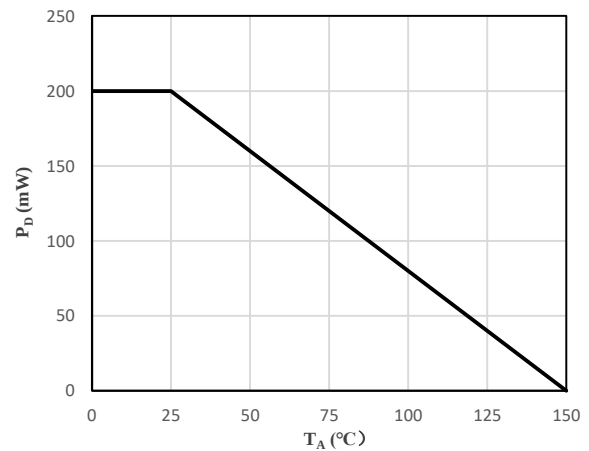
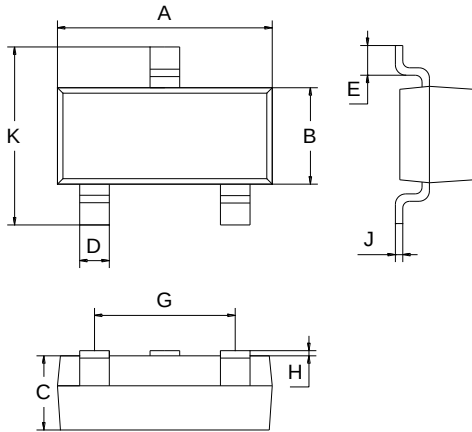


Fig 6 Power Dissipation vs. Air Temperature

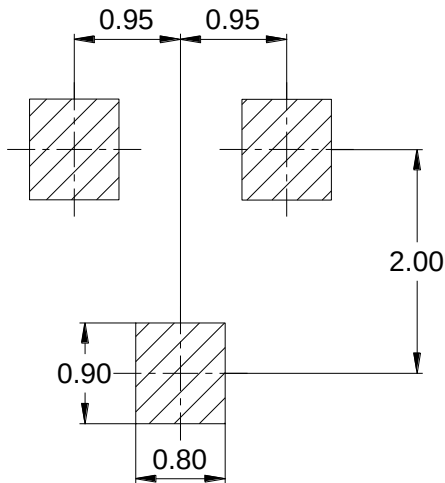
Package Outline Dimensions (Unit: mm)



SOT-23		
Dimension	Min.	Max.
A	2.70	3.10
B	1.10	1.50
C	0.9	1.1
D	0.3	0.5
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.05	0.15
K	2.20	2.60

Package Outline Dimensions (Unit: mm)

SOT-23



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.