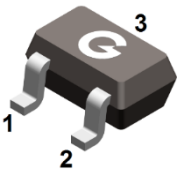
NPN Silicon Epitaxial Planar Transistor

2SC4116

Features

HF

- Excellent h_{FE} linearity
- Complimentary to 2SA1586
- High voltage and current



SOT-323

Mechanic al Data

- Case: SOT-323
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
2SC4116	SOT-323	3000 pcs / Tape & Reel	LO/LY/LG/LL

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

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V_{CBO}	60	V
Collector-Emitter Breakdown Voltage	V_{CEO}	50	V
Emitter-Base Breakdown Voltage	V_{EBO}	5	V
Continuous Collector Current	I_C	150	mA
Peak Collector Current	I_{CM}	200	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	100	mW
Thermal Resistance Junction-to-Air	$R_{\theta JA}$	1250	°C/W
Operating junction Temperature	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Electrical Characteristics (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 100μA, I_E = 0	60	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 1mA, I_B = 0	50	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 100μA, I_C = 0	5	-	-	V
Collector Cut-off Current	I_{CBO}	V_{CB} = 60V, I_E = 0	-	-	0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB} = 5V, I_C = 0	-	-	0.1	μA
DC Current Gain	h_{FE}	V_{CE} = 6V, I_C = 2mA	70	-	700	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	I_{CE} = 100mA, I_B = 10mA	-	-	0.25	V
Transition Frequency	f_T	I_C = 1mA, V_{CE} = 10V	80	-	-	MHz
Collector Output Capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHZ	-	-	3.5	pF

Classification of h_{FE}

Rank	O	Y	GR	BL
Range	70-140	120-240	200-400	350-700
Marking	LO	LY	LG	LL

Ratings and Characteristics Curves (@ T_A = 25°C unless otherwise specified)

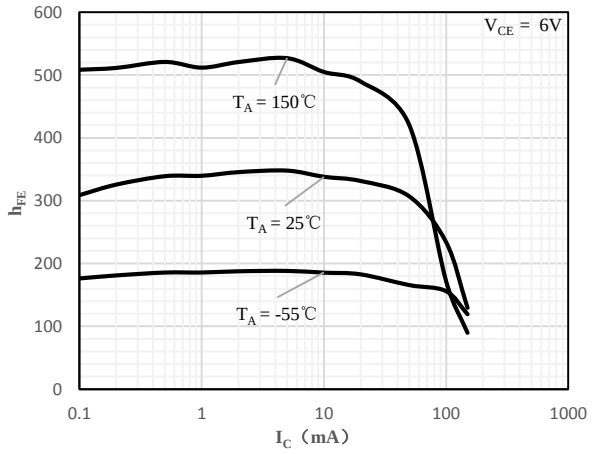


Fig 1 h_{FE} vs. I_C (GR)

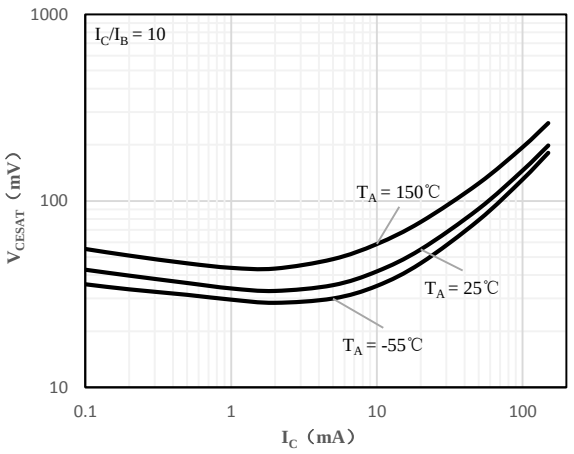


Fig 2 $V_{CE(sat)}$ vs. I_C

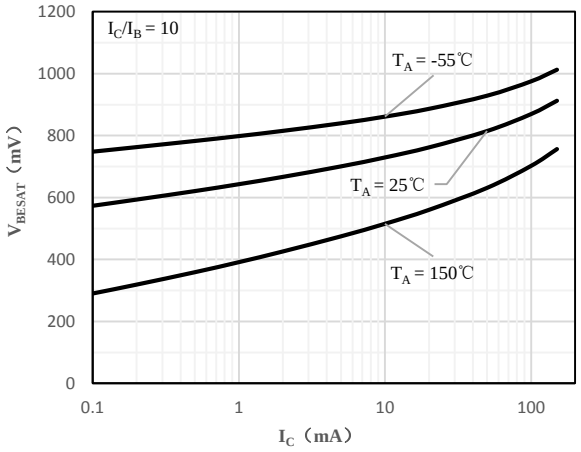


Fig 3 $V_{BE(sat)}$ vs. I_C

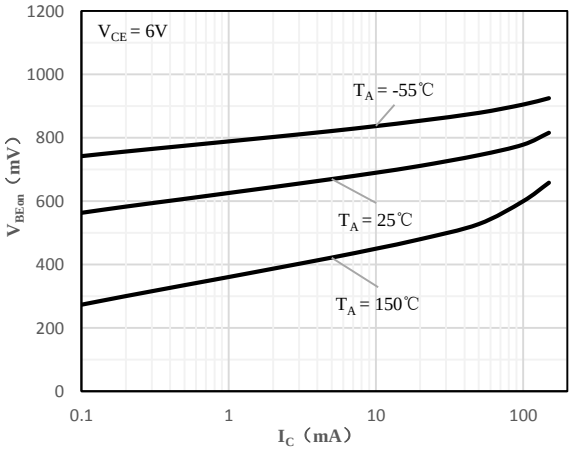
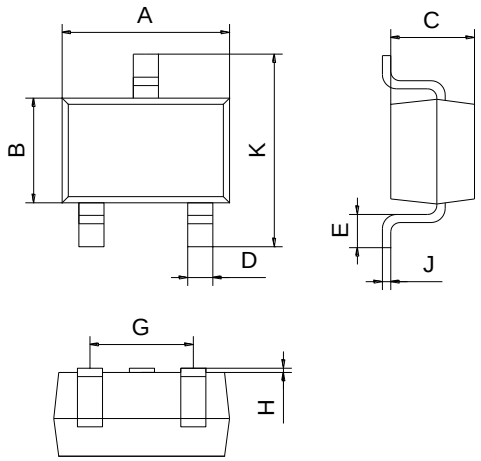


Fig 4 $V_{BE(ON)}$ vs. I_C

Package Outline Dimensions (Unit: mm)



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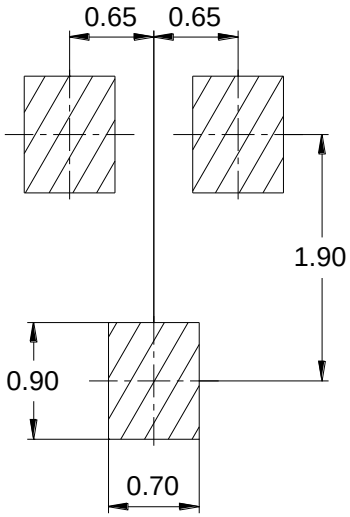
Dimension	**Min.**	**Max.**
A	2.00	2.20
B	1.15	1.35
C	0.90	1.10
D	0.15	0.35
E	0.25	0.40
G	1.20	1.40
H	0.02	0.10
J	0.05	0.15
K	2.20	2.40

Mounting Pad Layout (Unit: mm)

SOT-323



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