NPN small signal transistor

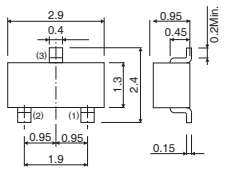
BCX19

●Features

(1) High gain and low saturation voltage.
(2) Complements the BCX17.

●Dimensions (Unit : mm)

BCX19



(1)Emitter
(2)Base
(3)Collector

Each lead has same dimensions

Abbreviated symbol : GU1

●Packaging specifications

Type	Package	Taping
	Code	T116
	Basic ordering unit (pieces)	3000
BCX19		○

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit	
Collector-emitter voltage (V_{BE}=0)	V_{CES}	50	V	
Collector-emitter voltage (open base)	V_{CEO}	45	V	
Emitter-base voltage	V_{EBO}	5	V	
Collector current	I_C	0.5	A	
Collector current (peak value)	I_{CM}	1	A	
Collector power dissipation	P_C	0.2	W	
		0.35	W	*
		0.425	W	*2
Junction temperature	Tj	150	°C	
Storage temperature	Tstg	−65 to 150	°C	

* Mounted on a 7×5×0.6 mm CERAMIC SUBSTRATE
*2 Mounted on a 15×15×0.6 mm CERAMIC SUBSTRATE

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	BV_{CES}	50	–	–	V	I_C= 50μA
Collector-emitter breakdown voltage	BV_{CEO}	45	–	–	V	I_C= 10mA
Emitter-base breakdown voltage	BV_{EBO}	5	–	–	V	I_E= 50μA
Collector-base cutoff current	I_{CBO}	–	–	0.1	μA	V_{CB}= 20V
Emitter-base cutoff current	I_{EBO}	–	–	10	μA	V_{EB}= 5V
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	–	0.62	V	I_C/I_B= 500mA/ 50mA
Base-emitter voltage	$V_{BE(on)}$	–	–	1.2	V	V_{CE}= 1V, I_C= 500mA
DC current transfer ratio	h_{FE}	100	–	600	–	V_{CE}= 1V, I_C= 100mA
		70	–	–		V_{CE}= 1V, I_C= 300mA
		40	–	–		V_{CE}= 1V, I_C= 500mA
Transition frequency	f_T	–	250	–	MHz	V_{CE}= 5V, I_E= 20mA, f=100MHz
Collector-base cutoff current	I_{CBO}	–	–	5	μA	V_{CB}= 20V, Ta=150°C

●Absolute maximum ratings (Ta=25°C)

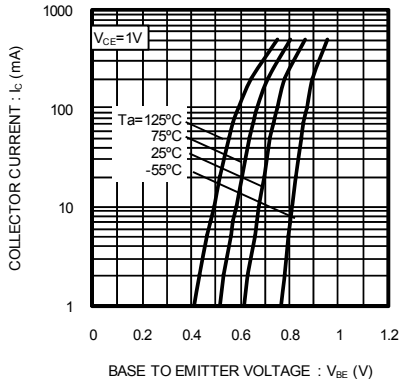


Fig1. Grounded Emitter Propagation Characteristics

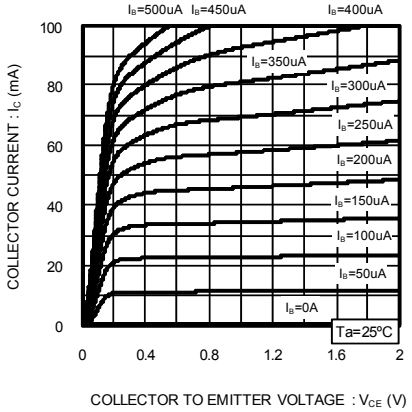


Fig2. Grounded Emitter Output Characteristics

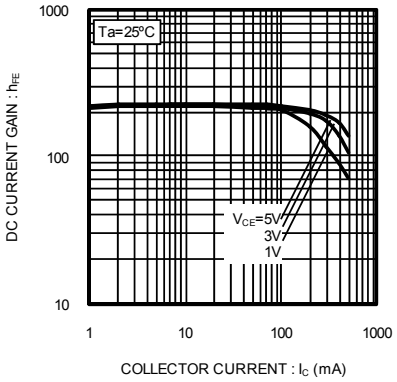


Fig3. DC Current Gain vs. Collector Current (I)

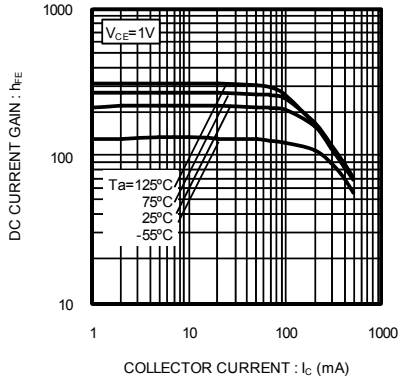


Fig4. DC Current Gain vs. Collector Current (II)

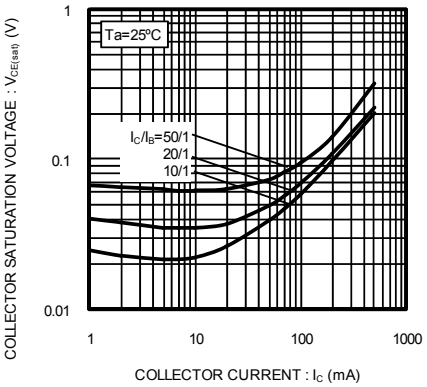


Fig5. Collector Saturation Voltage vs. Collector Current (I)

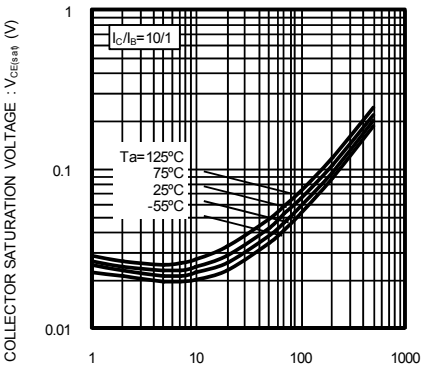


Fig6. Collector Saturation Voltage vs. Collector Current (II)

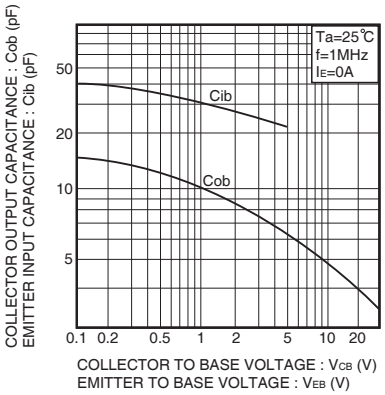


Fig.7 Input-and-output capacity vs.voltage characteristic

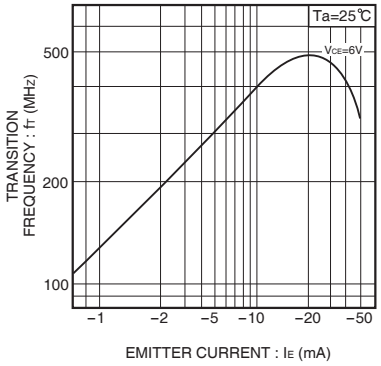


Fig.8 Transition frequency vs.emitter current

Notes

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