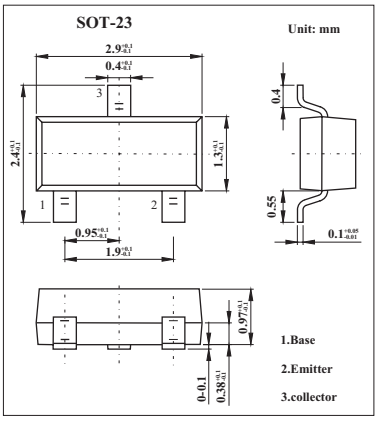
NPN Silicon Transistor

2SC1623



Features

- High DC Current Gain:

  h_{FE} = 200 TYP.

  V_{CE} = 6.0 V, I_C = 1.0 mA

- High Voltage:

  $V_{CE\ O}$ = 50 V

Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	60	V
Collector to emitter voltage	V_{CEO}	50	V
Emitter to base voltage	V_{EBO}	5	V
Collector current (DC)	I_C	100	mA
Collector power dissipation	P_C	200	mW
Junction temperature	T_j	150	℃
Storage temperature range	T_{stg}	-55 to +150	℃

Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 60V, I_E=0			0.1	μA
Emitter cutoff current	I_{EBO}	V_{EB} = 5V, I_C=0			0.1	μA
DC current gain *	h_{FE}	V_{CE} = 6V , I_C = 1mA	90	200	600	
Collector-emitter saturation voltage *	$V_{CE(sat)}$	I_C = 100mA , I_B = 10mA		0.15	0.3	V
Base-emitter saturation voltage *	$V_{BE(sat)}$	I_C = 100mA , I_B = 10mA		0.86	1	V
Base-emitter voltage *	V_{BE}	V_{CE} = 6V , I_C = 1mA	0.55	0.62	0.65	V
Output capacitance	C_{ob}	V_{CB} = 6V , I_E = 0 , f = 1.0MHz		3.0		pF
Transiton Frequency	f_T	V_{CE} = 6V , I_E = -10mA		250		MHz

*. PW≤350μs,duty cycle≤2%

h_{FE} Classification

Marking	L4	L5	L6	L7
hFE	90 to 180	135 to 270	200 to 400	300 to 600

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■ Typical Characteristics

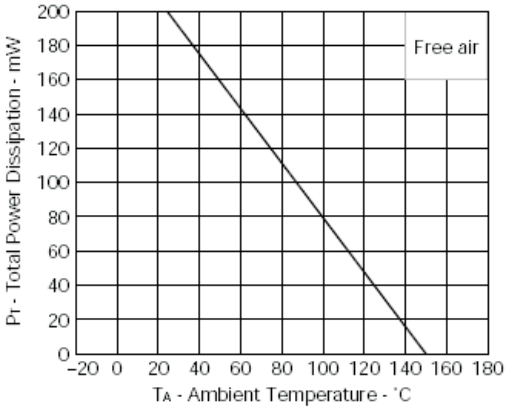

Fig.1 Total power dissipation vs. ambient temperature

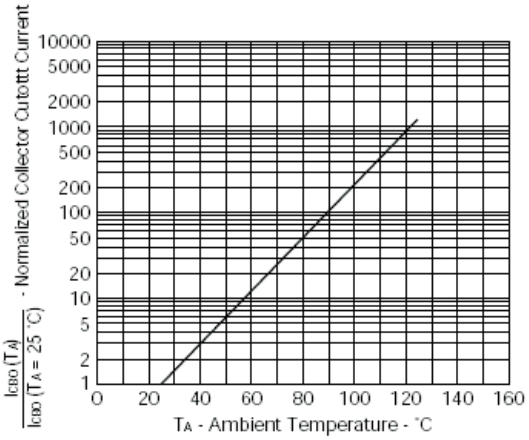

Fig.2 Normalized collector cutoff current vs. ambient temperature

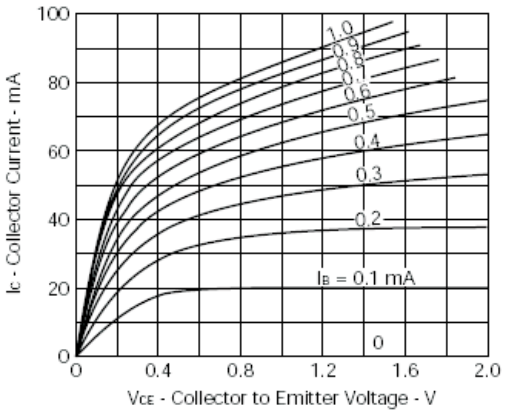

Fig.3 Collector current vs.collector to emitter voltage

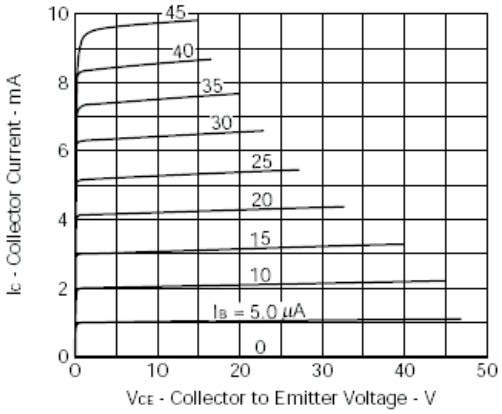

Fig.4 Collector current vs. collector to emitter voltage

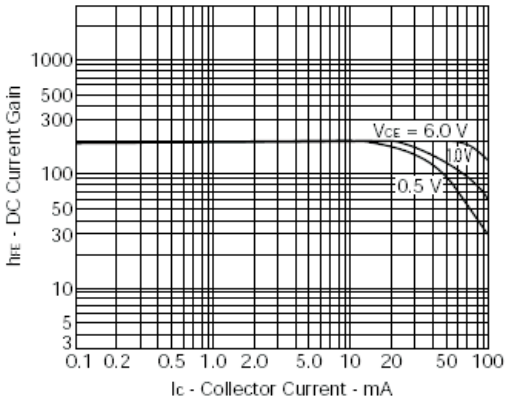

Fig.5 DC current gain vs. collector current

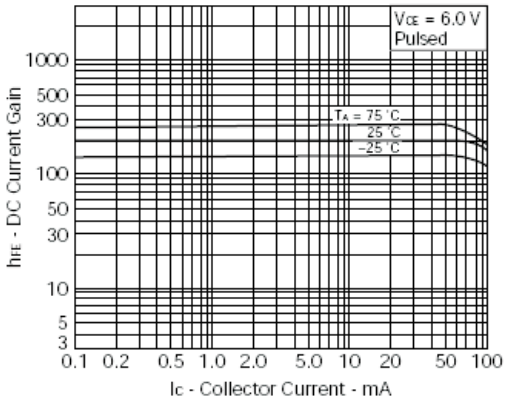

Fig.6 DC current gain vs.Collector current

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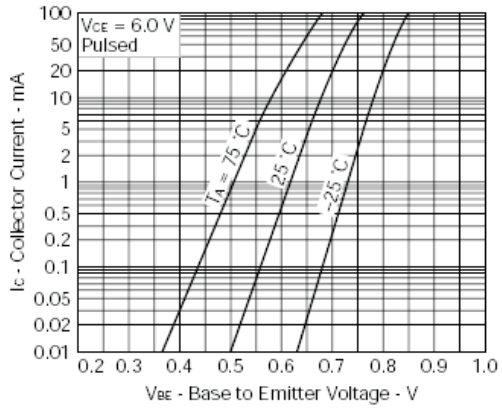

Fig. 7 Collector current vs.base to emitter voltage

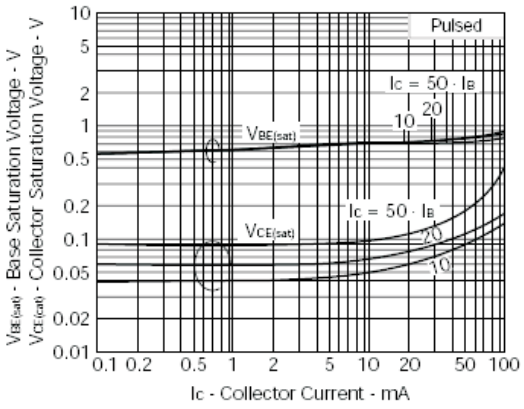

Fig. 8 Collector and base saturation voltage vs.collector current

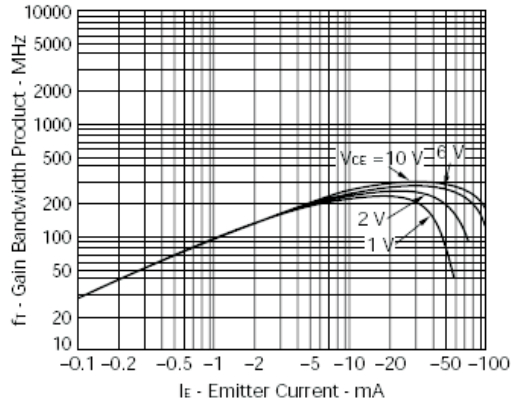

Fig. 9 Gain bandwidth product vs. emitter current

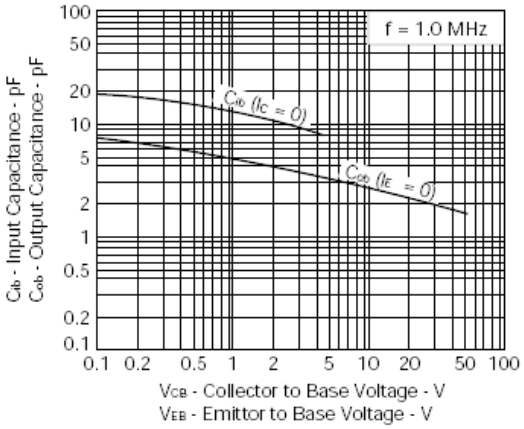

Fig. 10 Input and output capacitance vs. reverse voltage

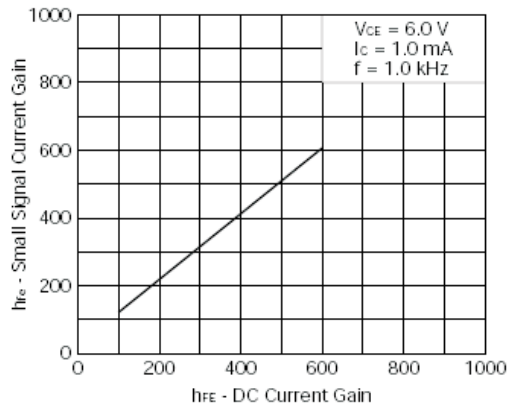

Fig. 11 Small signal current gain vs. DC current gain

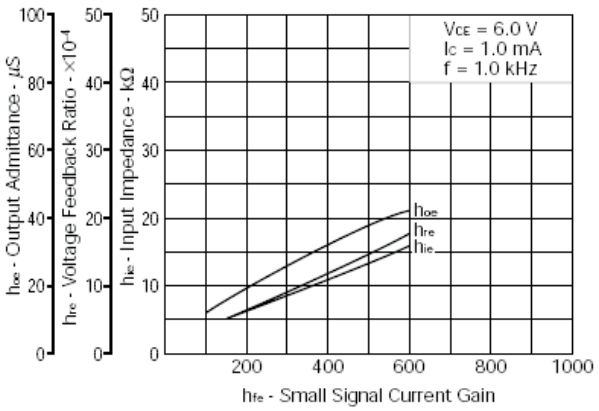

Fig.12 Input impedance voltage feedback ratio and output admittance vs.small signal current gain

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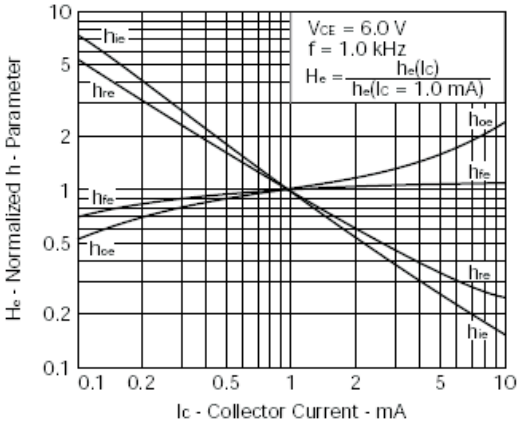

Fig.13 Normalzed h-parameter vs.collector current

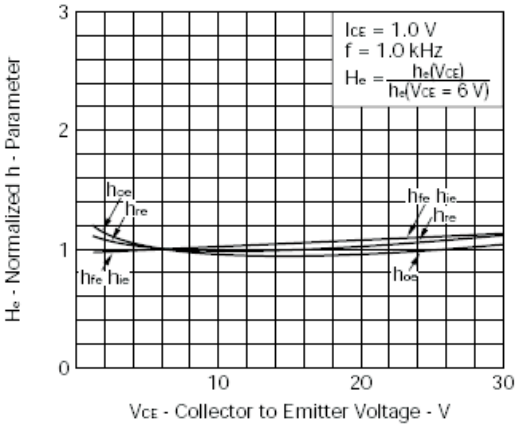

Fig.14 Normalzed h-parameter vs.collector to emitter voltage