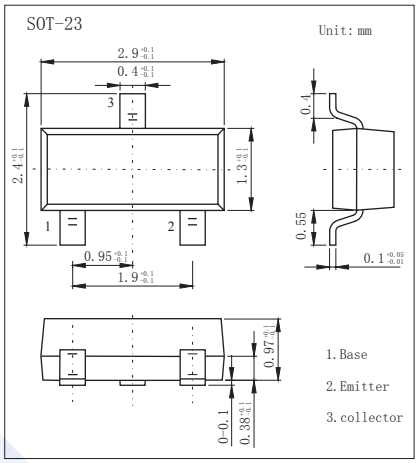
PNP Transistors

2SB1590K



■ Features

- Collector Current Capability I_C=-1A
- Collector Emitter Voltage V_{CEO}=-15V
- Complementary to 2SD2444K

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	-15	V
Collector - Emitter Voltage	V_{CEO}	-15	
Emitter - Base Voltage	V_{EBO}	-6	
Collector Current - Continuous	I_C	-1	A
Collector Current - Pulse	I_{CP}	-2	
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	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	I_C= -100 μA, I_E=0	-15			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= -1 mA, I_B=0	-15			
Emitter - base breakdown voltage	V_{EBO}	I_E= -100 μ A, I_C=0	-6			
Collector-base cut-off current	I_{CBO}	V_{CB}= -12 V , I_E=0			-0.5	uA
Emitter cut-off current	I_{EBO}	V_{EB}= -5V , I_C=0			-0.5	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-400mA, I_B=-20mA			-0.3	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=-400mA, I_B=-20mA			-1.2	
DC current gain	h_{FE}	V_{CE}= -2V, I_C= -500mA	120		270	
		V_{CE}= -2V, I_C= -800mA	80			
Collector output capacitance	C_{ob}	V_{CB}= -10V,I_E=0,f=1MHz		15		pF
Transition frequency	f_T	V_{CE}= -2V,I_E=50mA,f=100MHz		200		MHz

■ Classification of $h_{fe(1)}$

Type	2SB1590K-Q
Range	120-270
Marking	BKQ

PNP Transistors

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■ Typical Characterisitics

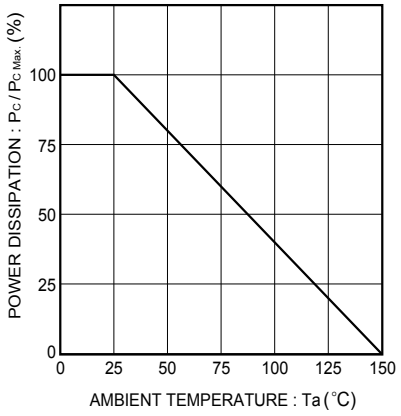

Fig.1 Grounded emitter output characteristics

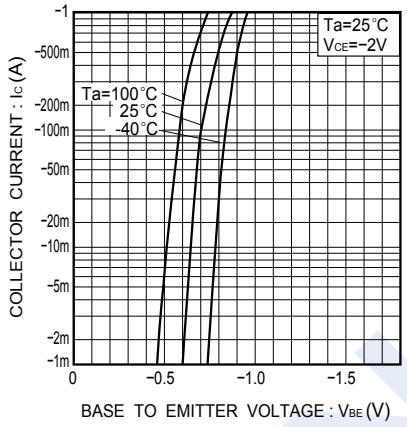

Fig.2 Grounded emitter propagation characteristics

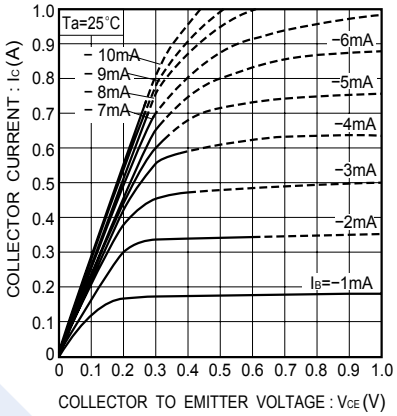

Fig.3 Grounded emitter output characteristics

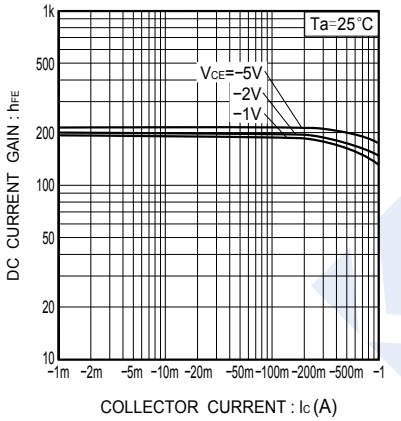

Fig.4 DC current gain vs. collector current (Ⅰ)

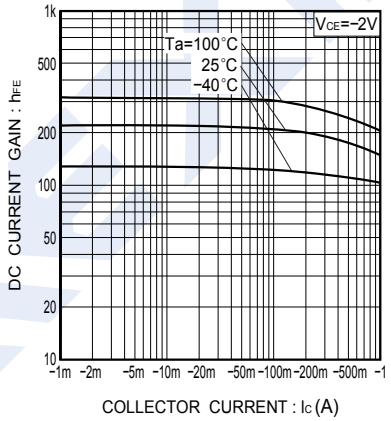

Fig.5 DC collector gain vs. collector current (Ⅱ)

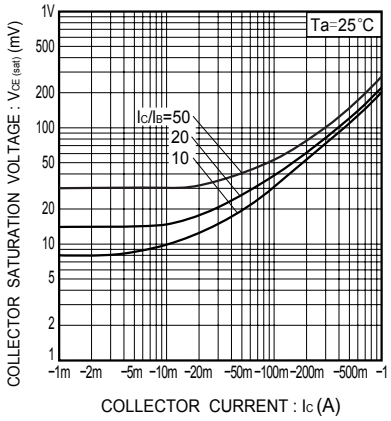

Fig.6 Collector-emitter saturation voltage vs. collector current (Ⅰ)

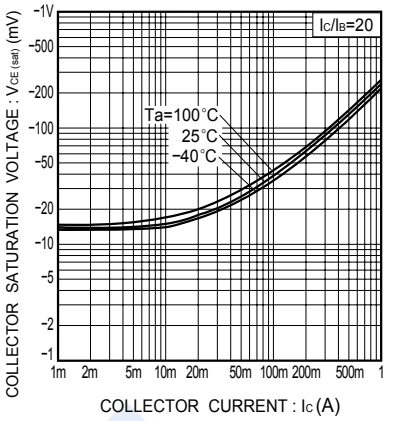

Fig.7 Collector-emitter saturation voltage vs. collector current (Ⅱ)

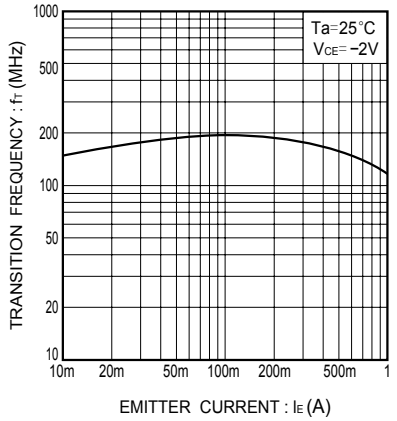

Fig.8 Transition frequency vs. emitter current

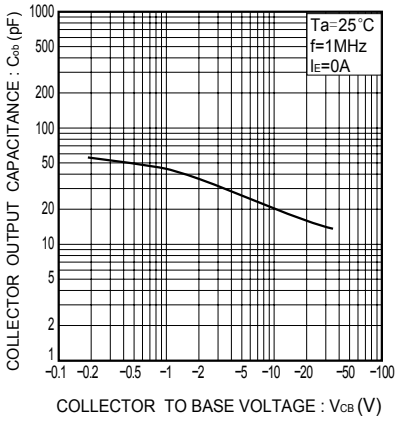

Fig.9 Collector output capacitance vs. collector-base voltage