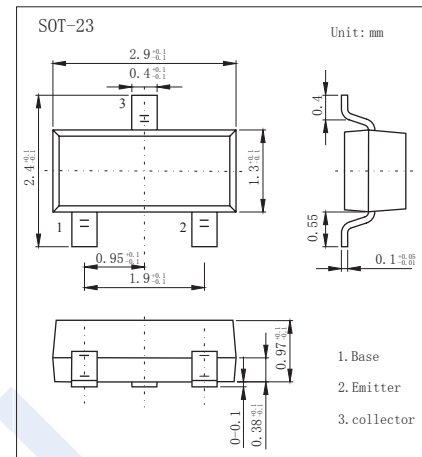


PNP Transistors

2SA1163

■ Features

- High voltage: $V_{CE0} = -120\text{ V}$
- High h_{FE} : $h_{FE} = 200\sim 700$
- Low noise: $NF = 1\text{ dB (typ.)}$, 10 dB (max)
- Small package
- Complementary to 2SC2713



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CB0}	-120	V
Collector - Emitter Voltage	V_{CE0}	-120	
Emitter - Base Voltage	V_{EB0}	-5	
Collector Current - Continuous	I_C	-100	mA
Base Current	I_B	-20	
Collector Power Dissipation	P_C	150	W
Junction Temperature	T_J	125	$^\circ\text{C}$
Storage Temperature range	T_{stg}	-55 to 125	

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CB0}	$I_C = -100\ \mu\text{A}$, $I_E = 0$	-120			V
Collector- emitter breakdown voltage	V_{CE0}	$I_C = -1\ \text{mA}$, $I_B = 0$	-120			
Emitter - base breakdown voltage	V_{EB0}	$I_E = -100\ \mu\text{A}$, $I_C = 0$	-5			
Collector-base cut-off current	I_{CBO}	$V_{CB} = -120\ \text{V}$, $I_E = 0$			-100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5\ \text{V}$, $I_C = 0$			-100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -10\ \text{mA}$, $I_B = -1\ \text{mA}$			-0.3	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = -10\ \text{mA}$, $I_B = -1\ \text{mA}$			-1.2	
DC current gain	h_{FE}	$V_{CE} = -6\ \text{V}$, $I_C = -2\ \text{mA}$	200		700	
Noise figure	NF	$V_{CE} = -6\ \text{V}$, $I_C = -0.1\ \text{mA}$, $f = 1\ \text{kHz}$, $R_g = 10\ \text{k}\Omega$,		1	10	dB
Collector output capacitance	C_{ob}	$V_{CB} = -10\ \text{V}$, $I_E = 0$, $f = 1\ \text{MHz}$		4		pF
Transition frequency	f_T	$V_{CE} = -6\ \text{V}$, $I_C = -1\ \text{mA}$		100		MHz

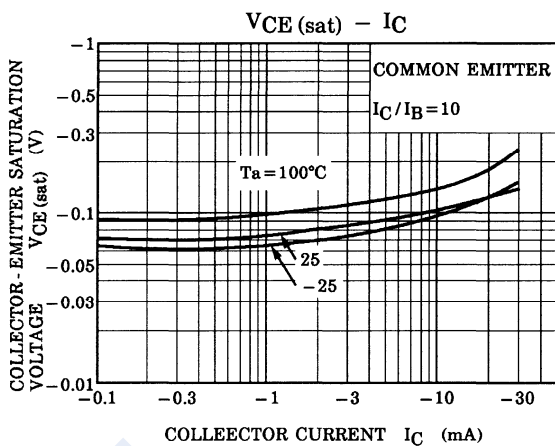
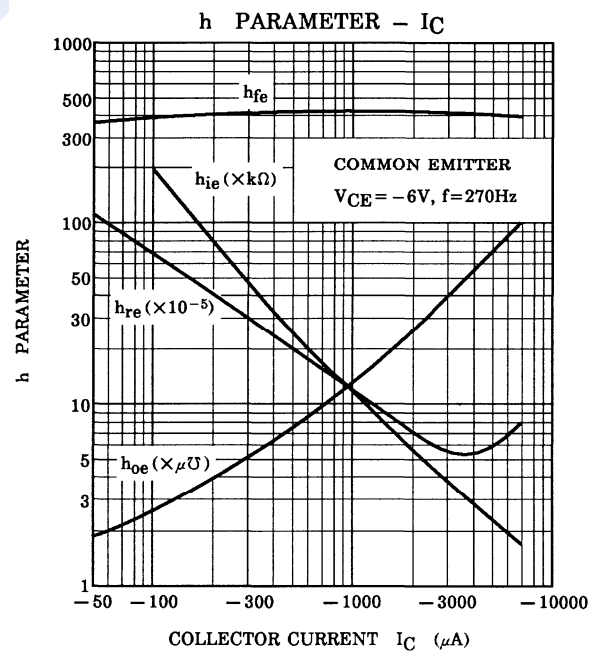
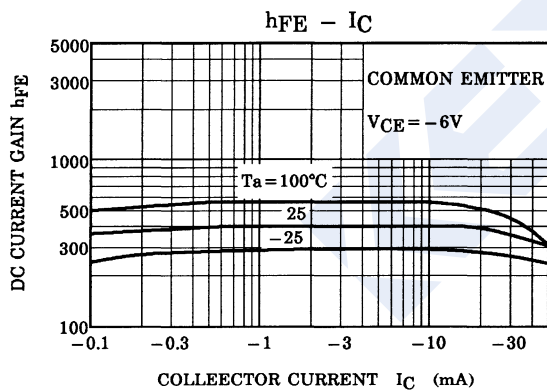
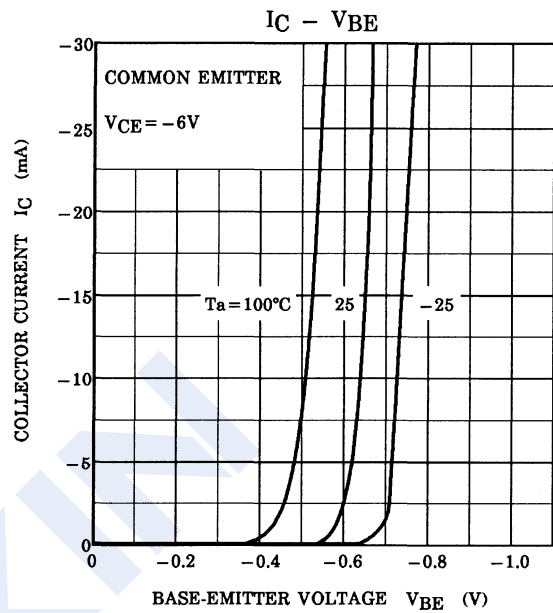
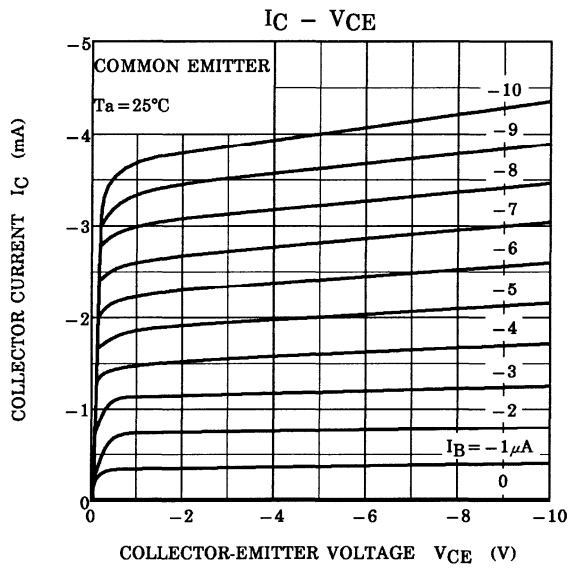
■ Classification of h_{FE}

Type	2SA1163-G	2SA1163-L
Range	200-400	350-700
Marking	CG	CL

PNP Transistors

2SA1163

■ Typical Characteristics



PNP Transistors

2SA1163

■ Typical Characteristics

