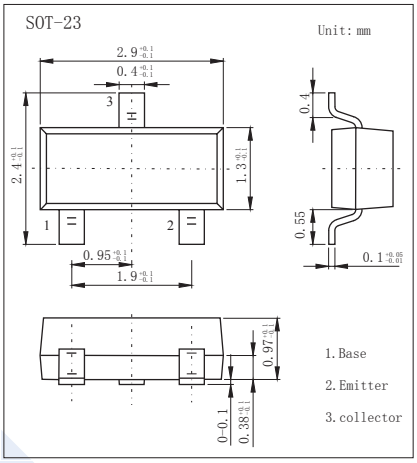
PNP Transistors

2SA1257



■ Features

- High breakdown voltage.
- Small output capacitance.
- Very small-sized package permitting the 2SA1257/ 2SC3143-applied sets to be made small and slim.

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	-180	V
Collector-emitter voltage	V_{CEO}	-160	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-80	mA
Collector current (pulse)	I_{CP}	-150	mA
Collector dissipation	P_C	200	mW
Jumction temperature	T_j	125	℃
Storage temperature	T_{stg}	-55 to +125	℃

■ 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	-180			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= -1 mA， R_{BE}=∞	-160			
Emitter - base breakdown voltage	V_{EBO}	I_E= -100 μ A， I_C=0	-5			
Collector-base cut-off current	I_{CBO}	V_{CB}= -120 V , I_E=0			-100	nA
Emitter cut-off current	I_{EBO}	V_{EB}= -4V , I_C=0			-100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-30mA, I_B=- 3mA			-0.7	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=-30mA, I_B=- 3mA			-1.2	
Base - emitter voltage	V_{BE}	V_{CE}= -5V , I_C=-10mA			-1.5	
DC current gain	h_{FE}	V_{CE}= -5V, I_C= -10mA	60		270	
Turn-on time	t_{on}	See Test Circuit.		0.15		us
Storage time	t_{stg}			0.95		
Fall time	t_f			0.15		
Collector output capacitance	C_{ob}	V_{CB}= -10V, f-1MHz		2.4	3.2	pF
Transition frequency	f_T	V_{CE}= -10V, I_C= -10mA		130		MHz

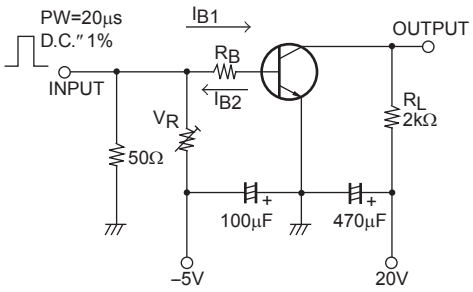
■ Classification of h_{fe}

Type	2SA1257-G3	2SA1257-G4	2SA1257-G5
Range	60-120	90-180	135-270
Marking	G3	G4	G5

PNP Transistors

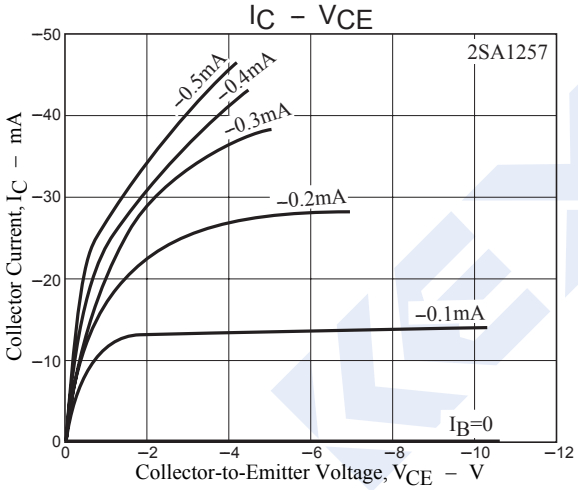
2SA1257

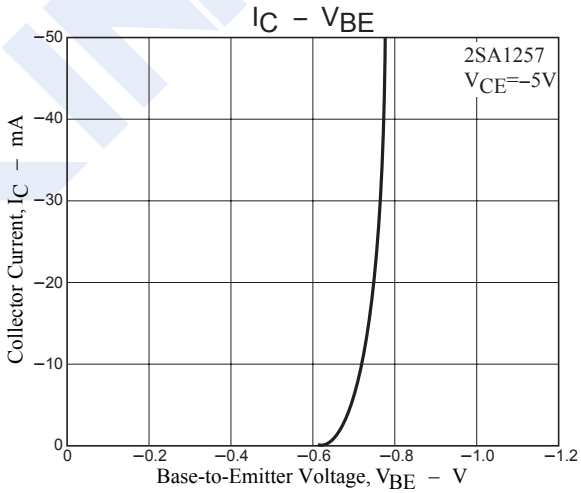
Switching Time Test Circuit

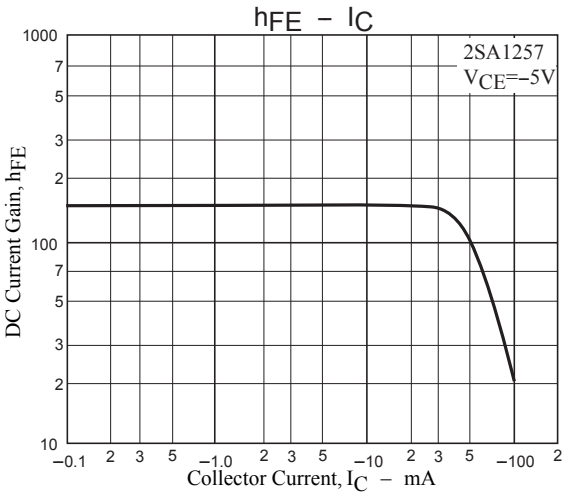


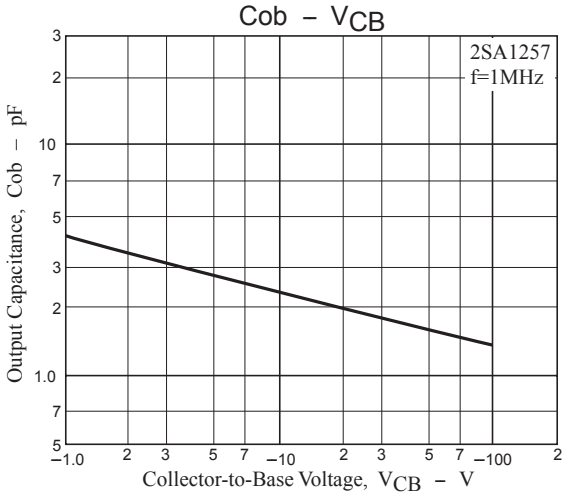
$10I_{B1}=-10I_{B2}=I_C=10mA$
(For PNP, the polarity is reversed.)

■ Typical Characterisitics









PNP Transistors

2SA1257

■ Typical Characterisitics