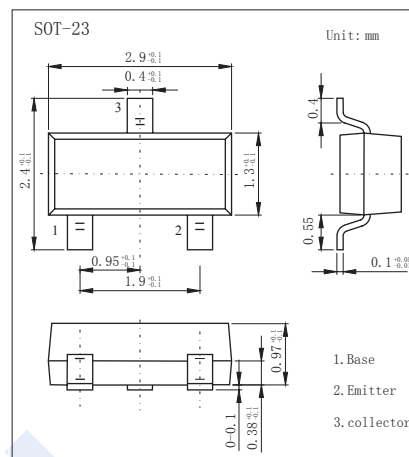


PNP Transistors

2SA1580

■ Features

- High fr.
- Small reverse transfer capacitance.
- Adoption of FBET process.
- Complementary to 2SC4104

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	-70	V
Collector-emitter voltage	V_{CE0}	-60	V
Emitter-base voltage	V_{EB0}	-4	V
Collector current	I_C	-50	mA
Collector current (pulse)	I_{cp}	-100	mA
Collector dissipation	P_C	200	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CB0}	$I_C = -100 \mu\text{A}$, $I_E = 0$	-70			V
Collector- emitter breakdown voltage	V_{CE0}	$I_C = -1 \text{ mA}$, $R_{BE} = \infty$	-60			
Emitter - base breakdown voltage	V_{EB0}	$I_E = -100 \mu\text{A}$, $I_C = 0$	-4			
Collector-base cut-off current	I_{CBO}	$V_{CB} = -40 \text{ V}$, $I_E = 0$			-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -3 \text{ V}$, $I_C = 0$			-1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -20 \text{ mA}$, $I_B = -2 \text{ mA}$			-0.6	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = -20 \text{ mA}$, $I_B = -2 \text{ mA}$			-1	
DC current gain	h_{FE}	$V_{CE} = -10$, $I_C = -10 \text{ mA}$	60		270	
Base-collector time constant	r_{bb}, C_c	$V_{CE} = -10 \text{ V}$, $I_C = 10 \text{ mA}$		8		ps
Reverse transfer capacitance	C_{re}	$V_{CB} = -10 \text{ V}$, $f = 1 \text{ MHz}$		1.3		pF
Output capacitance	C_{ob}	$V_{CB} = -10 \text{ V}$, $f = 1 \text{ MHz}$		1.7		
Transition frequency	f_T	$V_{CE} = -6 \text{ V}$, $I_E = 10 \text{ mA}$		180		MHz

■ Classification of h_{fe}

Type	2SA1580-QL3	2SA1580-QL4	2SA1580-QL5
Range	60-120	90-180	135-270
Marking	QL3	QL4	QL5