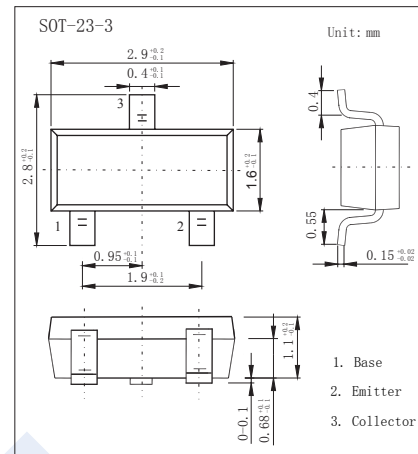


## PNP Transistors

### 2SA1580

#### ■ Features

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



#### ■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage	V <sub>CB0</sub>	-70	V
Collector-emitter voltage	V <sub>CEO</sub>	-60	V
Emitter-base voltage	V <sub>EB0</sub>	-4	V
Collector current	I <sub>c</sub>	-50	mA
Collector current (pulse)	I <sub>cp</sub>	-100	mA
Collector dissipation	P <sub>C</sub>	200	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

#### ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V <sub>CB0</sub>	I <sub>c</sub> = -100 μA, I <sub>E</sub> =0	-70			V
Collector- emitter breakdown voltage	V <sub>CEO</sub>	I <sub>c</sub> = -1 mA, R <sub>BE</sub> =∞	-60			
Emitter - base breakdown voltage	V <sub>EB0</sub>	I <sub>E</sub> = -100 μA, I <sub>c</sub> =0	-4			
Collector-base cut-off current	I <sub>CB0</sub>	V <sub>CB</sub> = -40 V, I <sub>E</sub> =0			-0.1	μA
Emitter cut-off current	I <sub>EB0</sub>	V <sub>EB</sub> = -3V, I <sub>c</sub> =0			-1	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> =-20mA, I <sub>B</sub> =- 2mA			-0.6	V
Base - emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>c</sub> =-20mA, I <sub>B</sub> =- 2mA			-1	
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> = -10, I <sub>c</sub> = -10mA	60		270	
Base-collector time constant	r <sub>bb</sub> , C <sub>c</sub>	V <sub>CE</sub> = -10V, I <sub>c</sub> = 10mA		8		ps
Reverse transfer capacitance	C <sub>re</sub>	V <sub>CB</sub> = -10V, f=1MHz		1.3		pF
Output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = -10V, f=1MHz		1.7		
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = -6V, I <sub>E</sub> = 10mA		180		MHz

#### ■ Classification of h<sub>FE</sub>

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