



## 2SA1575/2SC4080

### High-Frequency Amplifier, Wide-Band Amplifier Applications

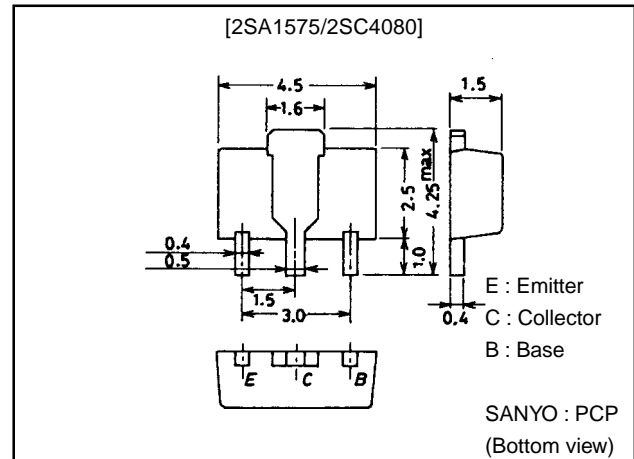
#### Features

- High  $f_T$ .
- High breakdown voltage.
- Small reverse transfer capacitance and excellent high-frequency characteristic.
- Adoption of FBET process.

#### Package Dimensions

unit:mm

2038



() : 2SA1575

#### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		(-)200	V
Collector-to-Emitter Voltage	$V_{CEO}$		(-)200	V
Emitter-to-Base Voltage	$V_{EBO}$		(-)4	V
Collector Current	$I_C$		(-)100	mA
Collector Current (Pulse)	$I_{CP}$		(-)200	mA
Collector Dissipation	$P_C$		500	mW
		Mounted on ceramic board (250mm <sup>2</sup> ×0.8mm)	1.3	W
Junction Temperature	$T_J$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = (-)150\text{V}, I_E = 0$			(-)0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = (-)2\text{V}, I_C = 0$			(-)1.0	$\mu\text{A}$
DC Current Gain	$h_{FE1}$	$V_{CE} = (-)10\text{V}, I_C = (-)10\text{mA}$	40*		320*	
	$h_{FE2}$	$V_{CE} = (-)10\text{V}, I_C = (-)60\text{mA}$	20			
Gain-Bandwidth Product	$f_T$	$V_{CE} = (-)30\text{V}, I_C = (-)30\text{mA}$		400		MHz
Output Capacitance	$C_{ob}$	$V_{CB} = (-)30\text{V}, f = 1\text{MHz}$		1.8		pF
				(2.3)		pF
Reverse Transfer Capacitance	$C_{re}$	$V_{CB} = (-)30\text{V}, f = 1\text{MHz}$		1.4		pF
				(1.7)		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)20\text{mA}, I_B = (-)2\text{mA}$			(-)1.0	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)20\text{mA}, I_B = (-)2\text{mA}$			(-)1.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu\text{A}, I_E = 0$	(-)200			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1\text{mA}, R_{BE} = \infty$	(-)200			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)100\mu\text{A}, I_C = 0$	(-)4			V

\* : The 2SA1575/2SC4080 are classified by 10mA  $h_{FE}$  as follows :

40	C	80	60	D	120	100	E	200	160	F	320
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Marking 2SA1575 : AF

2SC4080 : CI

 $h_{FE}$  rank : C, D, E, F

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