

Medium Power Transistor ($-32V$, $-0.5A$)

2SA1036K / 2SA1577 / 2SA854S

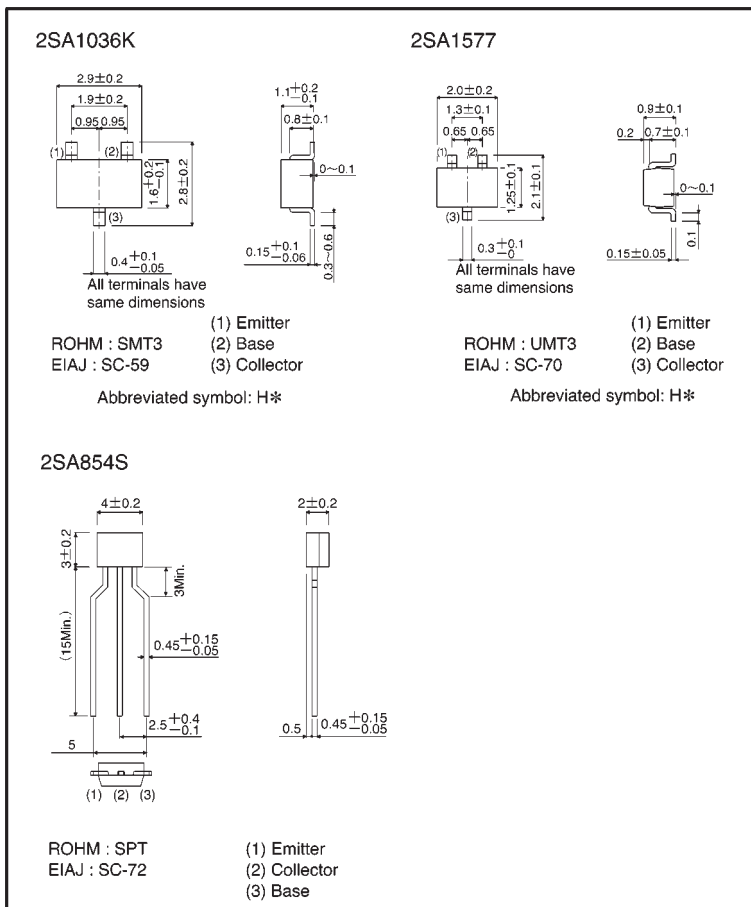
●Features

- 1) Large I_c .
 $I_{cMax.} = -500mA$
- 2) Low $V_{CE(sat)}$. Ideal for low-voltage operation.
- 3) Complements the 2SC2411K / 2SC1741S / 2SC4097.

●Structure

Epitaxial planar type
PNP silicon transistor

●External dimensions (Units: mm)



* Denotes hFE

● Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V _{CBO}	−40	V
Collector-emitter voltage	V _{CEO}	−32	V
Emitter-base voltage	V _{EBO}	−5	V
Collector current	I _C	−0.5	A *
Collector power dissipation	P _C	0.2	W
Junction temperature	T _J	150	°C
Storage temperature	T _{stg}	−55~+150	°C

* P_C MAX. must not be exceeded.

● Electrical characteristics (Ta = 25°C)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage		BV _{CBO}	−40	—	—	V	I _C = −100 μA
Collector-emitter breakdown voltage		BV _{CEO}	−32	—	—	V	I _C = −1 mA
Emitter-base breakdown voltage		BV _{EBO}	−5	—	—	V	I _E = −100 μA
Collector cutoff current		I _{CBO}	—	—	−1	μA	V _{CB} = −20V
Emitter cutoff current		I _{EBO}	—	—	−1	μA	V _{EB} = −4V
Collector-emitter saturation voltage		V _{CE(sat)}	—	—	−0.4	V	I _C /I _B = −100mA/−10mA
DC current transfer ratio	2SA1036K, 2SA1577	h _{FE}	82	—	390	—	V _{CE} = −3V, I _C = −10mA
	2SA854S		120	—	390	—	I _C /I _B = −500mA/−50mA
Transition frequency		f _T	—	200	—	MHz	V _{CE} = −5V, I _E = 20mA, f = 100MHz
Output capacitance	2SA1036K, 2SA1577	C _{ob}	—	7	—	pF	V _{CB} = −10V, I _E = 0A, f = 1MHz
	2SA854S		—	8	—	pF	

● Packaging specifications and h_{FE}

Type	h _{FE}	Package	Taping		
		Code	T146	T106	TP
		Basic ordering unit (pieces)	3000	3000	5000
2SA1036K	PQR		○	—	—
2SA1577	PQR		—	○	—
2SA854S	QR		—	—	○

h_{FE} values are classified as follows.

Item	P	Q	R
h _{FE}	82~180	120~270	180~390

● Electrical characteristic curves

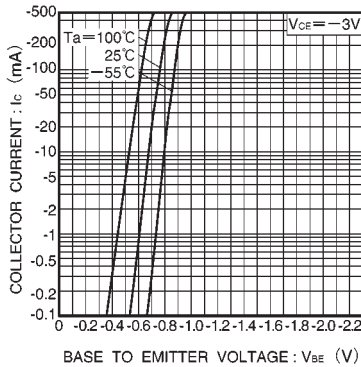


Fig.1 Grounded emitter propagation

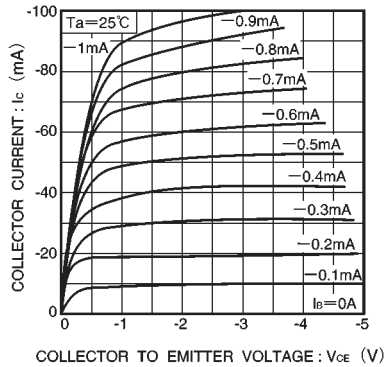


Fig.2 Grounded emitter output characteristics (I)

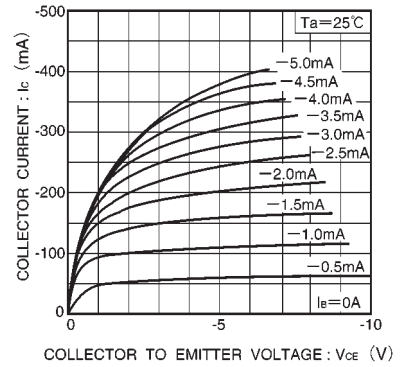


Fig.3 Grounded emitter output characteristics (II)

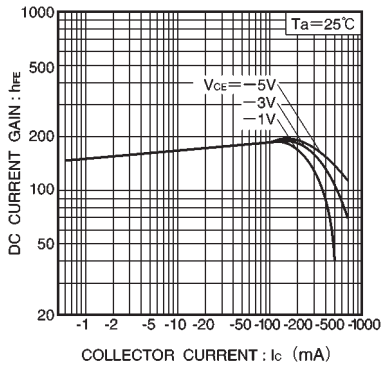


Fig.4 DC current gain vs. collector current (I)

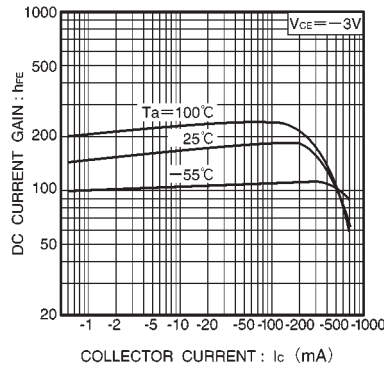


Fig.5 DC current gain vs. collector current (II)

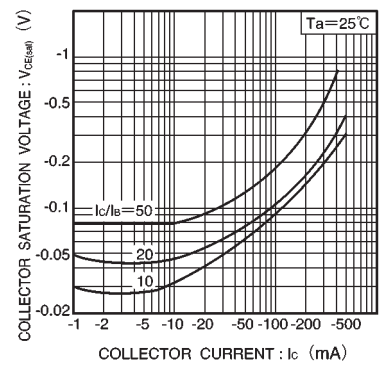


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

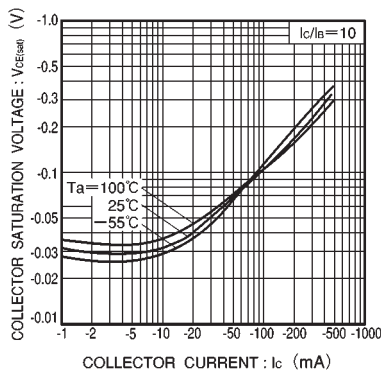


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

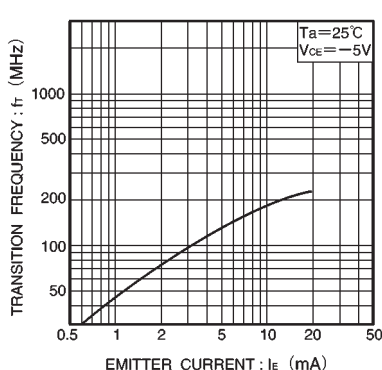


Fig.8 Gain bandwidth product vs. emitter current

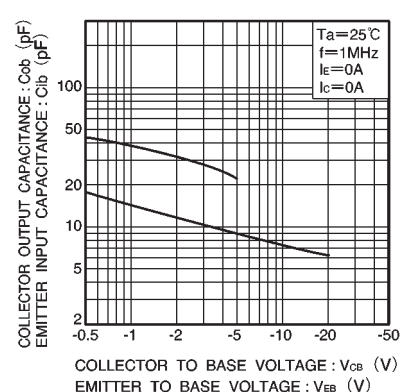


Fig.9 Collector output capacitance vs. collector-base voltage. Emitter input capacitance vs. emitter-base voltage