

High-voltage Amplifier Transistor

(−120V, −50mA)

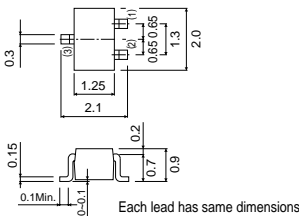
2SA1579 / 2SA1514K / 2SA1038S

●Features

- 1) High breakdown voltage. ($BV_{CEO} = -120V$)
- 2) Complements the 2SC4102 / 2SC3906K / 2SC2389S.

●External dimensions (Unit : mm)

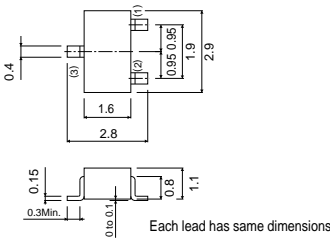
2SA1579



ROHM : UMT3
EIAJ : SC-70
JEDEC : SOT-323

(1) Emitter
(2) Base
(3) Collector

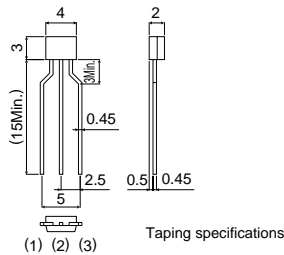
2SA1514K



ROHM : SMT3
EIAJ : SC-59
JEDEC : SOT-346

(1) Emitter
(2) Base
(3) Collector

2SA1038S



ROHM : SPT
EIAJ : SC-72

(1) Emitter
(2) Collector
(3) Base

2SA1579 / 2SA1514K / 2SA1038S

Transistors

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V _{CB0}	−120	V
Collector-emitter voltage	V _{CE0}	−120	V
Emitter-base voltage	V _{EB0}	−5	V
Collector current	I _C	−50	mA
Collector power dissipation	P _C	0.2	W
		0.3	
Junction temperature	T _J	150	°C
Storage temperature	T _{stg}	−55 to +150	°C

●Packaging specifications and h_{FE}

Type	2SA1579	2SA1514K	2SA1038S
Package	UMT3	SMT3	SPT
h _{FE}	RS	RS	RS
Marking	R*	R*	—
Code	T106	T146	TP
Basic ordering unit (pieces)	3000	3000	5000

*Denotes h_{FE}

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CB0}	−120	—	—	V	I _C = −50μA
Collector-emitter breakdown voltage	BV _{CE0}	−120	—	—	V	I _C = −1mA
Emitter-base breakdown voltage	BV _{EB0}	−5	—	—	V	I _E = −50μA
Collector cutoff current	I _{CBO}	—	—	−0.5	μA	V _{CB} = −100V
Emitter cutoff current	I _{EB0}	—	—	−0.5	μA	V _{EB} = −4V
Collector-emitter saturation voltage	V _{CE(sat)}	—	—	−0.5	V	I _C /I _B = −10mA/−1mA
DC current transfer ratio	h _{FE}	180	—	560	—	V _{CE} = −6V, I _C = −2mA
Transition frequency	f _T	—	140	—	MHz	V _{CE} = −12V, I _E =2mA, f=100MHz
Output capacitance	C _{ob}	—	3.2	—	pF	V _{CB} = −12V, I _E =0A, f=1MHz

Transistors

●Electrical characteristic curves

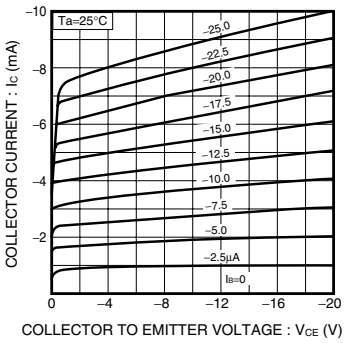


Fig.1 Ground emitter output characteristics

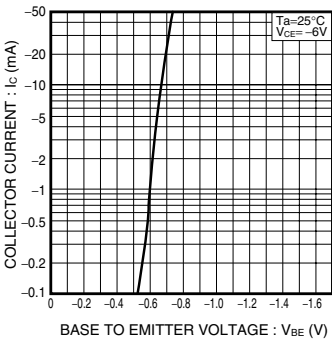


Fig.2 Ground emitter propagation characteristics

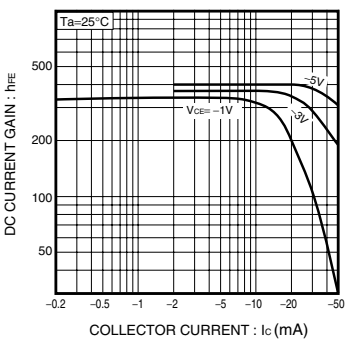


Fig.3 DC current gain vs. collector current

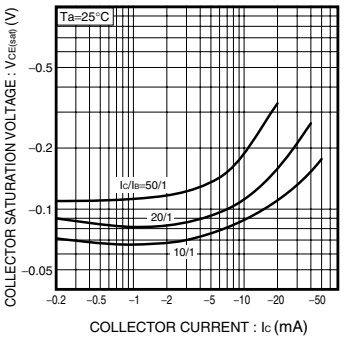


Fig.4 Collector-Emitter saturation voltage vs. collector current

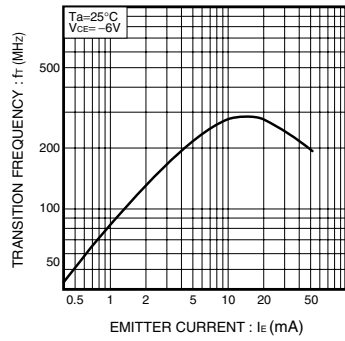


Fig.5 Transition frequency vs. emitter current

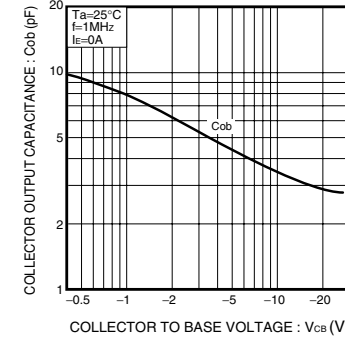


Fig.6 Collector output capacitance vs. collector-base voltage

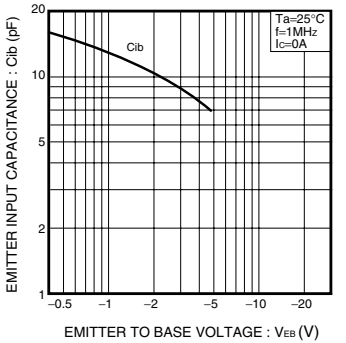


Fig.7 Emitter input capacitance vs. emitter-base voltage

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