High-voltage Amplifier Transistor (–120V, –50mA)

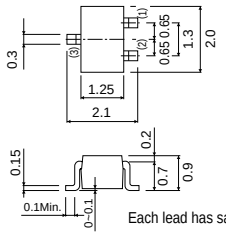
2SA1579 / 2SA1514K / 2SA1038S

●Features

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

●External dimensions (Unit : mm)

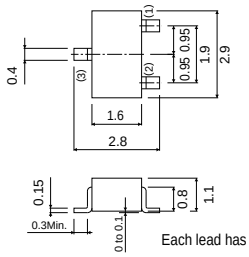
2SA1579



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

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

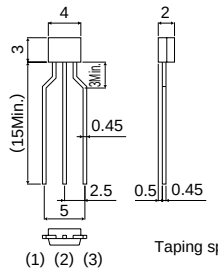
2SA1514K



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

●**Absolute maximum ratings** (Ta=25°C)

Parameter		Symbol	Limits	Unit
Collector-base voltage		V_{CBO}	–120	V
Collector-emitter voltage		V_{CEO}	–120	V
Emitter-base voltage		V_{EBO}	–5	V
Collector current		I_C	–50	mA
Collector power dissipation	2SA1579 / 2SA1514K	P_C	0.2	W
	2SA1038S		0.3	
Junction temperature		Tj	150	°C
Storage temperature		Tstg	–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_{CBO}	–120	–	–	V	I_C= –50μA
Collector-emitter breakdown voltage	BV_{CEO}	–120	–	–	V	I_C= –1mA
Emitter-base breakdown voltage	BV_{EBO}	–5	–	–	V	I_E= –50μA
Collector cutoff current	I_{CBO}	–	–	–0.5	μA	V_{CB}= –100V
Emitter cutoff current	I_{EBO}	–	–	–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	Cob	–	3.2	–	pF	V_{CB}= –12V, I_E=0A, f=1MHz

●Electrical characteristic curves

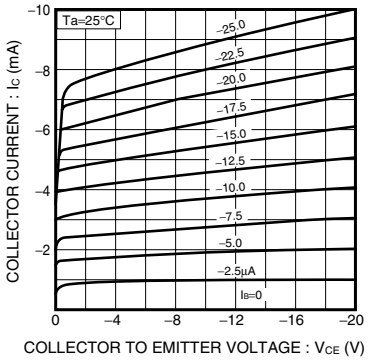


Fig.1 Ground emitter output characteristics

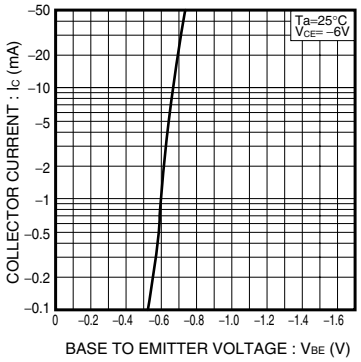


Fig.2 Ground emitter propagation characteristics

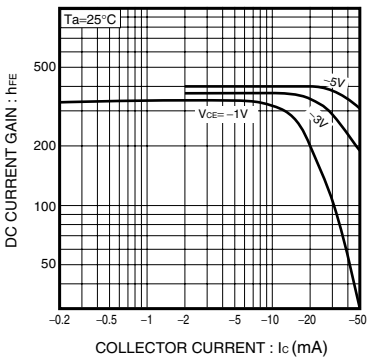


Fig.3 DC current gain vs. collector current

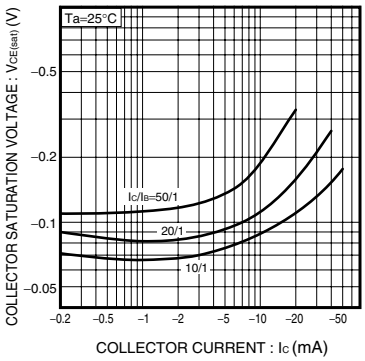


Fig.4 Collector-Emitter saturation voltage vs. collector current

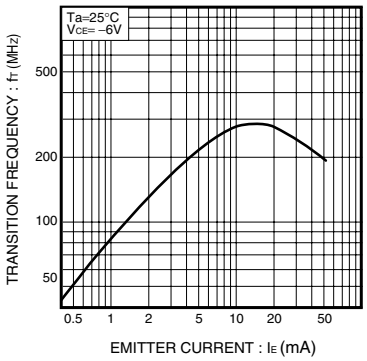


Fig.5 Transition frequency vs. emitter current

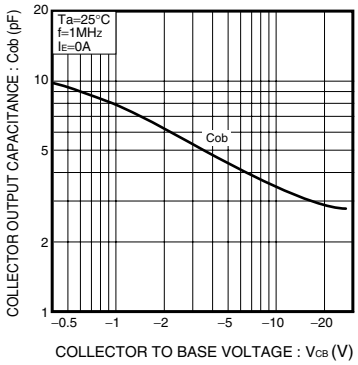


Fig.6 Collector output capacitance vs. collector-base voltage

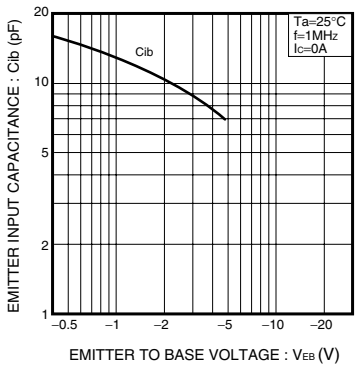


Fig.7 Emitter input capacitance vs. emitter-base voltage

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