

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

2SA1579 / 2SA1514K / 2SA1038S

●Features

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

●Absolute maximum ratings ($T_a=25^{\circ}C$)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	−120	V
Collector-emitter voltage	V_{CEO}	−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	$^{\circ}C$
Storage temperature	T_{stg}	−55~+150	$^{\circ}C$

●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}

●External dimensions (Units : mm)

2SA1579	Each lead has same dimensions	ROHM : UMT3 EIAJ : SC-70 JEDEC : SOT-323	(1) Emitter (2) Base (3) Collector
2SA1514K	Each lead has same dimensions	ROHM : SMT3 EIAJ : SC-59 JEDEC : SOT-346	(1) Emitter (2) Base (3) Collector
2SA1038S	Taping specifications	ROHM : SPT EIAJ : SC-72	(1) Emitter (2) Collector (3) Base

●Electrical characteristics ($T_a=25^{\circ}C$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	−120	—	—	V	$I_C = -50\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	−120	—	—	V	$I_C = -1mA$
Emitter-base breakdown voltage	BV_{EB0}	−5	—	—	V	$I_E = -50\mu A$
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	$I_C/I_E = -10mA/-1mA$
DC current transfer ratio	h_{FE}	180	—	560	—	$V_{CE} = -6V, I_C = -2mA$
Transition frequency	f_T	—	140	—	MHz	$V_{CE} = -12V, I_E = 2mA, f = 30MHz$
Output capacitance	C_{ob}	—	3.2	—	pF	$V_{CB} = -12V, I_E = 0A, f = 1MHz$