

2SA2102

Silicon PNP epitaxial planar type

Power supply for Audio & Visual equipments

such as TVs and VCRs

Industrial equipments such as DC-DC converters

■ Features

- High-speed switching (t_{stg} : storage time/ t_f : fall time is short)
- Low collector-emitter saturation voltage $V_{\text{CE(sat)}}$
- Superior forward current transfer ratio h_{FE} linearity
- TO-220D built-in: Excellent package with withstand voltage 5 kV guaranteed

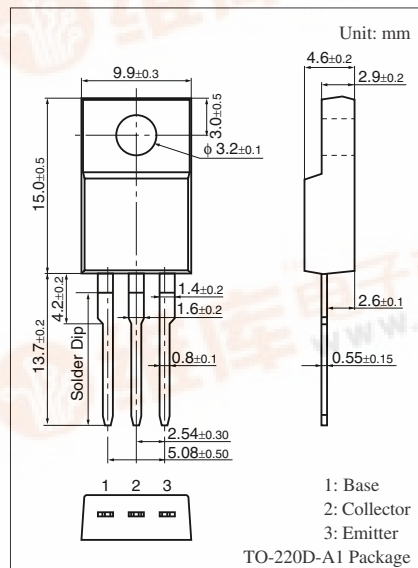
■ Absolute Maximum Ratings $T_C = 25^\circ\text{C}$

Parameter		Symbol	Rating	Unit
Collector-base voltage (Emitter open)		V_{CBO}	−60	V
Collector-emitter voltage (Base open)		V_{CEO}	−60	V
Emitter-base voltage (Collector open)		V_{EBO}	−6	V
Collector current		I_{C}	−3	A
Peak collector current		I_{CP}	−5	A
Collector power dissipation	$T_{\text{C}} = 25^{\circ}\text{C}$	P_{C}	15	W
	$T_{\text{a}} = 25^{\circ}\text{C}$		2	
Junction temperature		T_{j}	150	$^{\circ}\text{C}$
Storage temperature		T_{stg}	−55 to +150	$^{\circ}\text{C}$

■ Electrical Characteristics $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

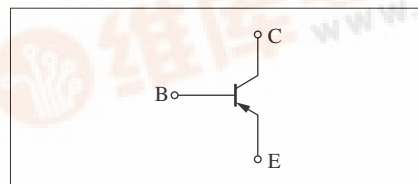
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = -10 \text{ mA}$, $I_B = 0$	-60			V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{\text{CB}} = -60 \text{ V}$, $I_E = 0$			-100	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{\text{CE}} = -60 \text{ V}$, $I_B = 0$			-100	μA
Forward current transfer ratio	h_{FE1}	$V_{\text{CE}} = -4 \text{ V}$, $I_C = -0.2 \text{ A}$	60			—
	h_{FE2}	$V_{\text{CE}} = -4 \text{ V}$, $I_C = -1 \text{ A}$	80		250	—
	h_{FE3}	$V_{\text{CE}} = -4 \text{ V}$, $I_C = -3 \text{ A}$	30			—
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}$	$I_C = -3 \text{ A}$, $I_B = -0.375 \text{ A}$			-0.8	V
Transition frequency	f_T	$V_{\text{CE}} = 10 \text{ V}$, $I_C = -0.1 \text{ A}$, $f = 10 \text{ MHz}$		100		MHz
Turn-on time	t_{on}	$I_C = -1 \text{ A}$, Resistance loaded		0.2		μs
Storage time	t_{stg}	$I_{\text{B1}} = -0.1 \text{ A}$, $I_{\text{B2}} = 0.1 \text{ A}$		0.4		μs
Fall time	t_f	$V_{\text{CC}} = -50 \text{ V}$		0.1		μs

Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.



Marking Symbol: A2102

Internal Connection



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