

2SA2102

Silicon PNP epitaxial planar type

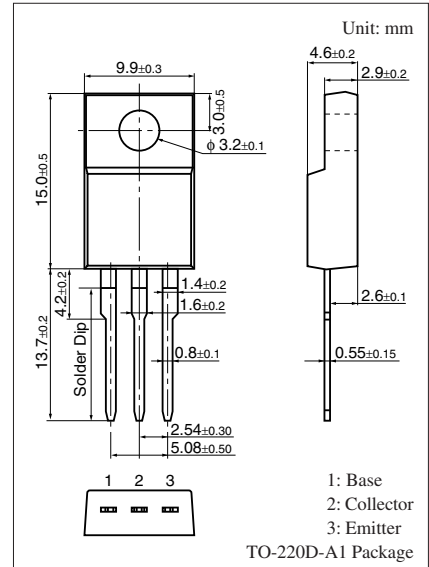
Power supply for Audio & Visual equipments
such as TVs and VCRs
Industrial equipments such as DC-DC converters

■ Features

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

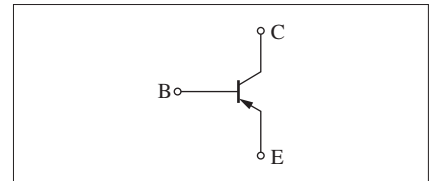
■ Absolute Maximum Ratings $T_C = 25^\circ C$

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	$T_C = 25^\circ C$	P_C	15	W
	$T_a = 25^\circ C$		2	
Junction temperature	T_j	150	$^\circ C$	
Storage temperature	T_{stg}	-55 to +150	$^\circ C$	



Marking Symbol: A2102

Internal Connection



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

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

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

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