Ordering number : ENA0580

SANYO Semiconductors
DATA SHEET

2SA2200 — PNP Epitaxial Planar Silicon Transistor
High-Current Switching Applications

Applications

- DC / DC converters, relay drivers, lamp drivers, motor drivers.

Features

- Adoption of FBET, MBIT processes.
- Large current capacitance.
- Low collector-to-emitter saturation voltage.
- High-speed switching.
- High allowable power dissipation.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		–60	V
Collector-to-Emitter Voltage	V_{CES}		–60	V
Collector-to-Emitter Voltage	V_{CEO}		–60	V
Emitter-to-Base Voltage	V_{EBO}		–7	V
Collector Current	I_C		–3	A
Collector Current (Pulse)	I_{CP}		–5	A
Base Current	I_B		–600	mA
Collector Dissipation	P_C	Mounted on a ceramic board (250mm²×0.8mm)	1.3	W
		Tc=25°C	3.5	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		–55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=–50V, I_E=0A			–1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=–4V, I_C=0A			–1	μA
DC Current Gain	h_{FE}	V_{CE}=–2V, I_C=–100mA	200		400	
Gain-Bandwidth Product	f_T	V_{CE}=–10V, I_C=–500mA		400		MHz
Output Capacitance	Cob	V_{CB}=–10V, f=1MHz		25		pF

Marking : RA

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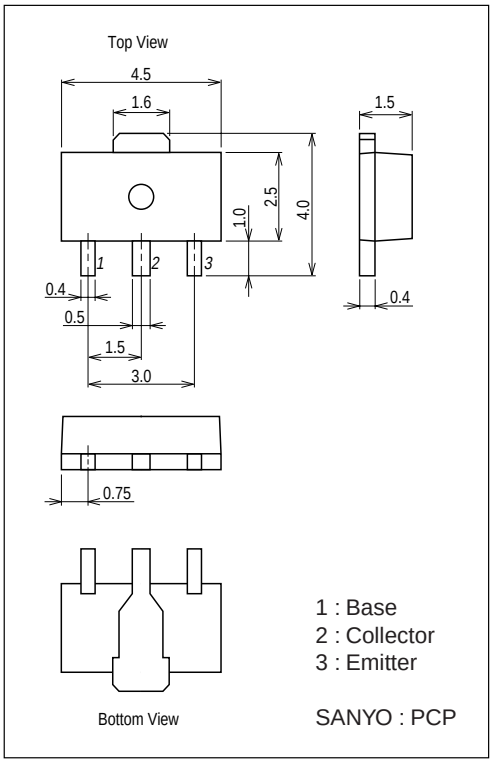
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)1	I_C=–1A, I_B=–50mA		–110	–220	mV
	V_{CE}(sat)2	I_C=–1A, I_B=–100mA		–90	–180	mV
Base-to-Emitter Saturation Voltage	V_{BE}(sat)	I_C=–1A, I_B=–100mA		–0.85	–1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=–10μA, I_E=0A	–60			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CES}$	I_C=–100μA, R_{BE}=0Ω	–60			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=–1mA, R_{BE}=∞	–60			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=–10μA, I_C=0A	–7			V
Turn-ON Time	t_{on}	See specified Test Circuit.		35		ns
Storage Time	t_{stg}	See specified Test Circuit.		480		ns
Fall Time	t_f	See specified Test Circuit.		28		ns

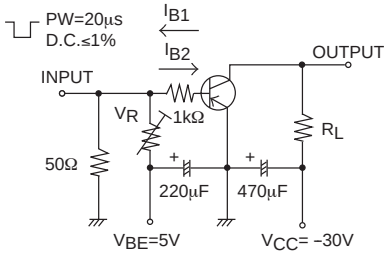
Package Dimensions

unit : mm (typ)

7007A-004



Switching Time Test Circuit



I_C= –10I_{B1}=10I_{B2}= –0.5A