

2SA2007

Transistors

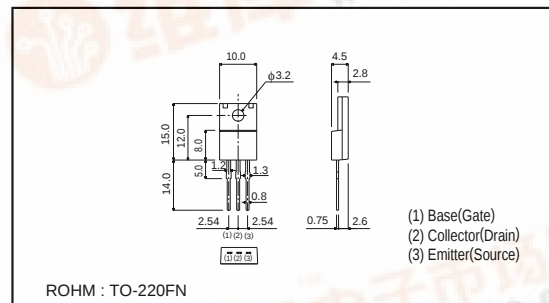
High-speed Switching Transistor (–60V, –12A)

2SA2007

●Features

- 1) High switching speed.
(Typ. $t_f = 0.15\mu s$ at $I_C = -6A$)
- 2) Low saturation voltage.
(Typ. $V_{CE(sat)} = -0.2V$ at $I_C / I_B = -6A / -0.3A$)
- 3) Wide SOA. (safe operating area)
- 4) Complements the 2SC5526.

●External dimensions (Units : mm)

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

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	–100	V
Collector-emitter voltage	V_{CEO}	–60	V
Emitter-base voltage	V_{EBO}	–5	V
Collector current	I_C	–12	A
		–20	A(Pulse)
Collector power dissipation	P_C	2	W
		25	W($T_C = 25^\circ C$)
Junction temperature	T_j	150	$^\circ C$
Storage temperature	T_{stg}	–55 ~ +150	$^\circ C$

●Packaging specifications and hFE

Type	2SA2007
Package	TO-220FN
hFE	F
Code	–
Basic ordering unit (pieces)	500

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	–100	–	–	V	$I_C = -50\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	–60	–	–	V	$I_C = -1mA$
Emitter-base breakdown voltage	BV_{EBO}	–5	–	–	V	$I_E = -50\mu A$
Collector cutoff current	I_{CBO}	–	–	–10	μA	$V_{CB} = -100V$
Emitter cutoff current	I_{EBO}	–	–	–10	μA	$V_{EB} = -5V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	–	–0.3	V	$I_C / I_B = -6A / -0.3A$
		–	–	–0.5	V	$I_C / I_B = -8A / -0.4A$
Base-emitter saturation voltage	$V_{BE(sat)}$	–	–	–1.2	V	$I_C / I_B = -6A / -0.3A$
		–	–	–1.5	V	$I_C / I_B = -8A / -0.4A$
DC current transfer ratio	hFE	160	–	320	–	$V_{CE} = -2V, I_C = -2A$
Transition frequency	f_T	–	80	–	MHz	$V_{CE} = -10V, I_E = 1A, f = 30MHz$
Output capacitance	C_{ob}	–	250	–	pF	$V_{CB} = -10V, I_E = 0A, f = 1MHz$
Turn-on time	t_{on}	–	–	0.3	μs	$I_C = -6A, R_t = 5\Omega$
Storage time	t_{stg}	–	–	1.5	μs	$I_{B1} = -I_{B2} = -0.3A$
Fall time	t_f	–	–	0.3	μs	$V_{CC} = -30V$