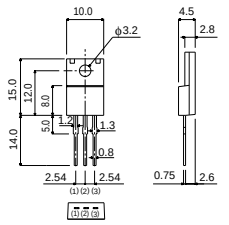
High-speed Switching Transistor (–60V,–12A)

2SA2007

●Features

1) High switching speed.
   (Typ. tf = 0.15µs at Ic = –6A)
2) Low saturation voltage.
   (Typ. $V_{CE(sat)}$ = –0.2V at Ic / IB = –6A / –0.3A)
3) Wide SOA. (safe operating area)
4) Complements the 2SC5526.

●External dimensions (Units : mm)



ROHM : TO-220FN

●Absolute maximum ratings (Ta = 25°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)
Collectorpowerdissipation	P_C	2	W
		25	W(Tc=25°C)
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 ~ +150	°C

●Packaging specifications and h_{FE}

Type	2SA2007
Package	TO-220FN
h_{FE}	F
Code	–
Basic ordering unit (pieces)	500

●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	–100	–	–	V	I_C = –50µA
Collector-emitter breakdown voltage	BV_{CEO}	–60	–	–	V	I_C = –1mA
Emitter-base breakdown voltage	BV_{EBO}	–5	–	–	V	I_E = –50µA
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	h_{FE}	160	–	320	–	V_{CE} = –2V , I_C = –2A
Transition frequency	f_T	–	80	–	MHz	V_{CE} = –10V , I_E = 1A , f = 30MHz
Output capacitance	Cob	–	250	–	pF	V_{CB} = –10V , I_E = 0A , f = 1MHz
Turn-on time	ton	–	–	0.3	µs	I_C = –6A , R_L = 5Ω
Storage time	tstg	–	–	1.5	µs	I_{B1} = –I_{B2} = –0.3A
Fall time	tf	–	–	0.3	µs	V_{CC} = –30V