

2SD1707

加急出货

Silicon NPN Epitaxial Planar Type

Power Switching
Complementary Pair with 2SB1156

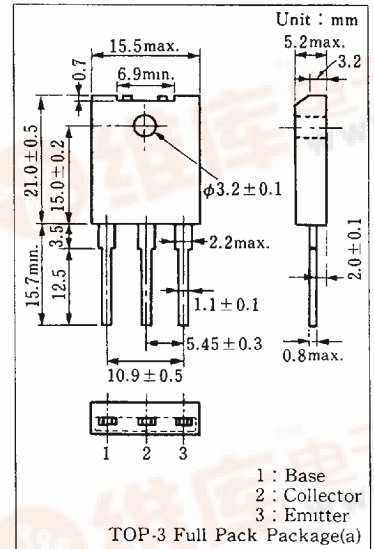
■ Features

- Low collector-emitter saturation voltage ($V_{CE(sat)}$)
- Good linearity of DC current gain (h_{FE})
- High collector current (I_C)
- "Full Pack" package for simplified mounting on a heat sink with one screw

■ Absolute Maximum Ratings ($T_c=25^\circ\text{C}$)

Item	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	130	V
Collector-emitter voltage	V_{CE0}	80	V
Emitter-base voltage	V_{EBO}	7	V
Peak collector current	I_{CP}	30	A
Collector current	I_C	20	A
Collector power dissipation	P_C	$T_c=25^\circ\text{C}$	100
		$T_a=25^\circ\text{C}$	3
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	$-55 \sim +150$	$^\circ\text{C}$

■ Package Dimensions



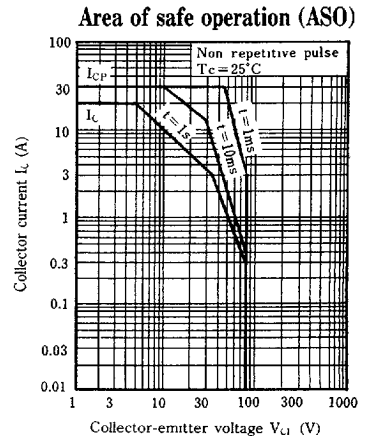
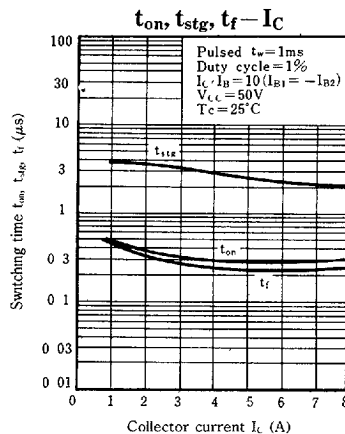
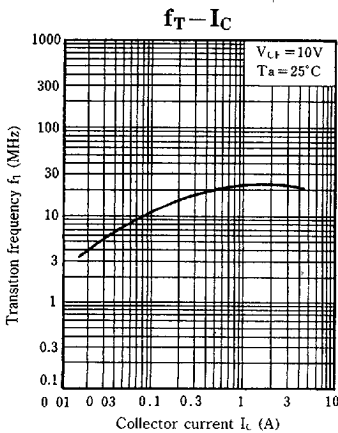
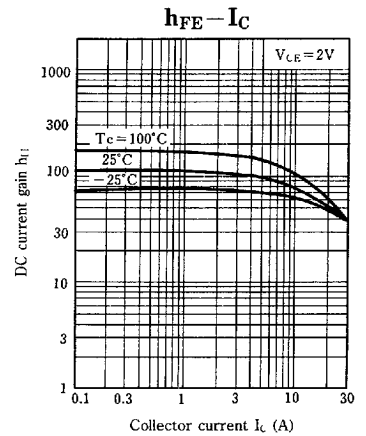
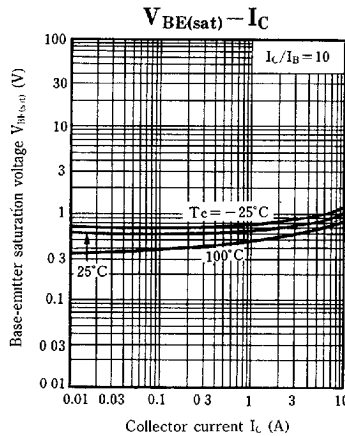
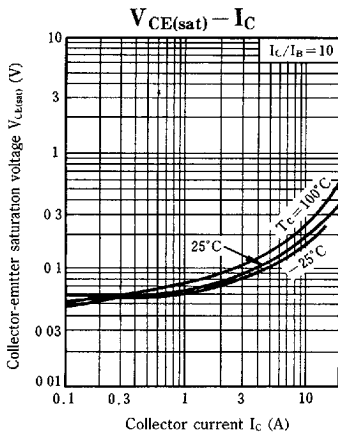
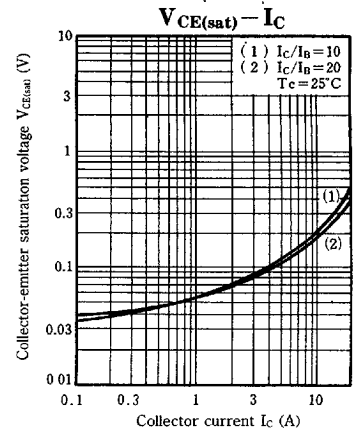
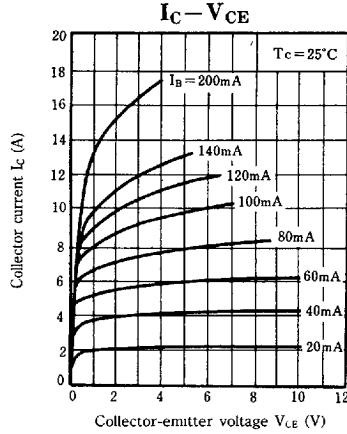
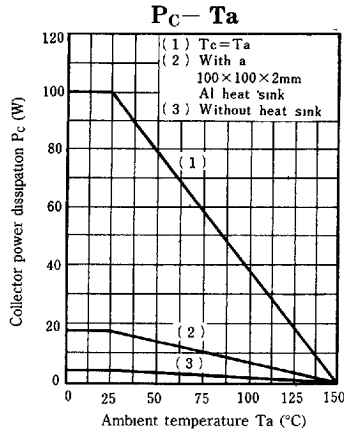
■ Electrical Characteristics ($T_c=25^\circ\text{C}$)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 100\text{ V}, I_E = 0$			10	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 5\text{ V}, I_C = 0$			50	μA
Collector-emitter voltage	V_{CE0}	$I_C = 10\text{ mA}, I_B = 0$	80			V
DC current gain	h_{FE1}	$V_{CE} = 2\text{ V}, I_C = 0.1\text{ A}$	45			
	h_{FE2}^*	$V_{CE} = 2\text{ V}, I_C = 3\text{ A}$	60		260	
	h_{FE3}	$V_{CE} = 2\text{ V}, I_C = 10\text{ A}$	30			V
Collector-emitter saturation voltage	$V_{CE(sat)1}$	$I_C = 8\text{ A}, I_B = 0.4\text{ A}$			0.5	V
	$V_{CE(sat)2}$	$I_C = 20\text{ A}, I_B = 2\text{ A}$			1.5	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	$I_C = 8\text{ A}, I_B = 0.4\text{ A}$			1.5	V
	$V_{BE(sat)2}$	$I_C = 20\text{ A}, I_B = 2\text{ A}$			2.5	V
Transition frequency	f_T	$V_{CE} = 10\text{ V}, I_C = 0.5\text{ A}, f = 1\text{ MHz}$		20		MHz
Turn-on time	t_{on}	$I_C = 8\text{ A}, I_{B1} = 0.8\text{ A}, I_{B2} = -0.8\text{ A}$ $V_{CC} = 50\text{ V}$		0.5		μs
Storage time	t_{stg}			2.0		μs
Fall time	t_f			0.2		μs

* h_{FE2} Classifications

Class	R	Q	P
h_{FE2}	60 ~ 120	90 ~ 180	130 ~ 260

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$R_{th(t)} - t$

