2SD1707

Silicon NPN epitaxial planar type

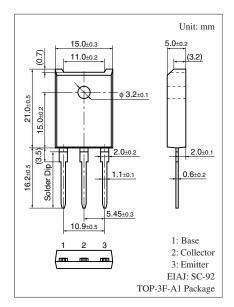
For power switching Complementary to 2SB1156

Features

- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Satisfactory linearity of forward current transfer ratio h_{FE}
- Large collector current I_C
- Full-pack package which can be installed to the heat sink with one screw

Absolute Maximum Ratings $T_C = 25^{\circ}C$

Parameter	Symbol	Rating	Unit				
Collector-base voltage (Emitter open)		V _{CBO}	130	V			
Collector-emitter voltage (Base open)		V _{CEO}	80	V			
Emitter-base voltage (Collector open)		V _{EBO}	7	V			
Collector current		I _C	20	А			
Peak collector current	I _{CP}	30	А				
Collector power dissipation		P _C	100	W			
T	$_{a} = 25^{\circ}C$		3.0				
Junction temperature		Tj	150	°C			
Storage temperature		T _{stg}	-55 to +150	°C			



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

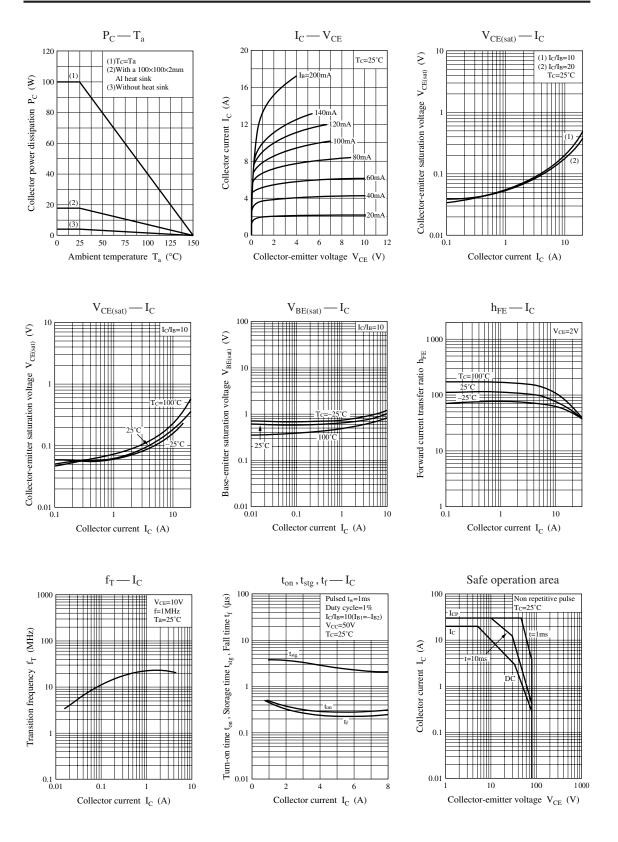
Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-emitter voltage (Base open)	V _{CEO}	$I_{\rm C} = 10 \text{ mA}, I_{\rm B} = 0$	80			V
Collector-base cutoff current (Emitter open)	I _{CBO}	$V_{CB} = 100 \text{ V}, I_E = 0$			10	μΑ
Emitter-base cutoff current (Collector open)	I _{EBO}	$V_{EB} = 5 V, I_C = 0$			50	μΑ
Forward current transfer ratio	h _{FE1}	$V_{CE} = 2 V, I_C = 0.1 A$	45			_
	h _{FE2} *	$V_{CE} = 2 V, I_C = 3 A$	90		260	
	h _{FE3}	$V_{CE} = 2 V, I_C = 10 A$	30			
Collector-emitter saturation voltage	V _{CE(sat)1}	$I_{\rm C} = 8 \text{ A}, I_{\rm B} = 0.4 \text{ A}$			0.5	V
	V _{CE(sat)2}	$I_{\rm C} = 20 \text{ A}, I_{\rm B} = 2 \text{ A}$			1.5	
Base-emitter saturation voltage	V _{BE(sat)1}	$I_{\rm C} = 8 \text{ A}, I_{\rm B} = 0.4 \text{ A}$			1.5	V
	V _{BE(sat)2}	$I_{\rm C} = 20 \text{ A}, I_{\rm B} = 2 \text{ A}$			2.5	
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}	$I_{C} = 8 A, I_{B1} = 0.8 A, I_{B2} = -0.8 A$		0.5		μs
Storage time	t _{stg}	$V_{CC} = 50 V$		2.0		μs
Fall time	t _f			0.2		μs

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

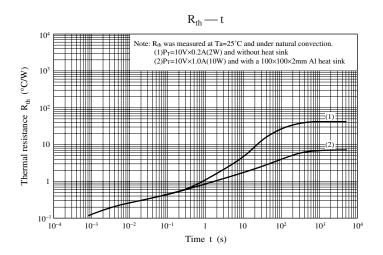
2. *: Rank classification

Rank	Q	Р		
h _{FE2}	90 to 180	130 to 260		

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