2SC1317, 2SC1318

Silicon NPN epitaxial planar type

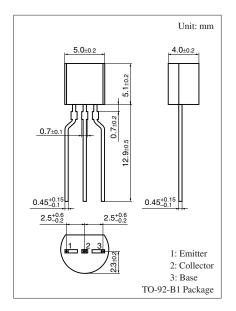
For low-frequency power amplification and driver amplification Complementary to 2SA0719 and 2SA0720

■ Features

- Low collector-emitter saturation voltage V_{CE(sat)}
- Complementary pair with 2SA0719 and 2SA0720

■ Absolute Maximum Ratings $T_a = 25$ °C

Parameter	Symbol	Rating	Unit	
Collector-base voltage	2SC1317	V_{CBO}	30	V
(Emitter open)	2SC1318		60	
Collector-emitter voltage	2SC1317	V _{CEO}	25	V
(Base open)	2SC1318		50	
Emitter-base voltage (Coll	V_{EBO}	7	V	
Collector current	I_C	0.5	A	
Peak collector current	I_{CP}	1	A	
Collector power dissipation	P _C	625	mW	
Junction temperature	T_{j}	150	°C	
Storage temperature	T _{stg}	-55 to +150	°C	



■ Electrical Characteristics $T_a = 25$ °C ± 3 °C

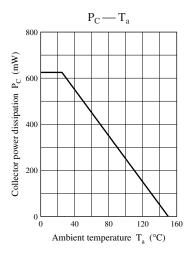
Parameter		Symbol	Conditions	Min	Тур	Max	Unit
Collector-base voltage	2SC1317	V _{CBO}	$I_C = 10 \mu\text{A}, I_E = 0$	30			V
(Emitter open)	2SC1318			60			
Collector-emitter voltage	2SC1317	V _{CEO}	$I_C = 10 \text{ mA}, I_B = 0$	25			V
(Base open)	2SC1318			50			
Emitter-base voltage (Collector open)		V_{EBO}	$I_E = 10 \ \mu A, I_C = 0$	7			V
Collector-base cutoff current (Emitter open)		I_{CBO}	$V_{CB} = 20 \text{ V}, I_{E} = 0$			0.1	μΑ
Forward current transfer ratio *1		h _{FE1} *2	$V_{CE} = 10 \text{ V}, I_{C} = 150 \text{ mA}$	85		340	_
		h _{FE2}	$V_{CE} = 10 \text{ V}, I_{C} = 500 \text{ mA}$	40			_
Collector-emitter saturation voltage *1		V _{CE(sat)}	$I_C = 300 \text{ mA}, I_B = 30 \text{ mA}$		0.35	0.60	V
Base-emitter saturation voltage *1		V _{BE(sat)}	$I_C = 300 \text{ mA}, I_B = 30 \text{ mA}$		1.1	1.5	V
Transition frequency		f_T	$V_{CB} = 10 \text{ V}, I_E = -50 \text{ mA}, f = 200 \text{ MHz}$		200		MHz
Collector output capacitance (Common base, input open circuited)		C _{ob}	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		6	15	pF

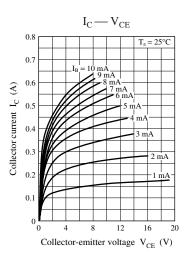
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

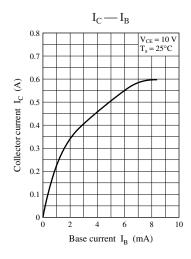
2. *1: Pulse measurement

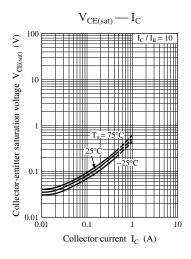
*2: Rank classification

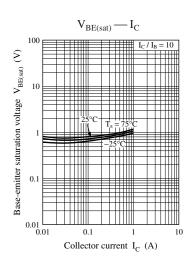
Rank	Q	R	S	
h_{FE1}	85 to 170	120 to 240	170 to 340	

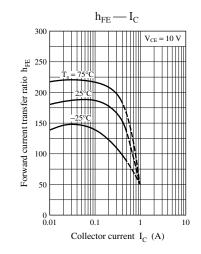


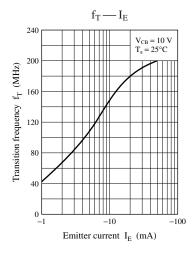


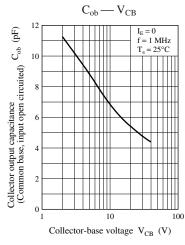


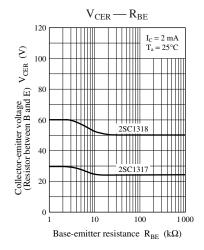


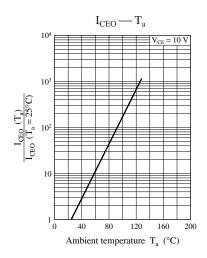


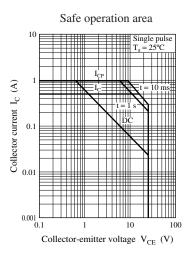












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