

2SC1383, 2SC1384

Silicon NPN epitaxial planar type

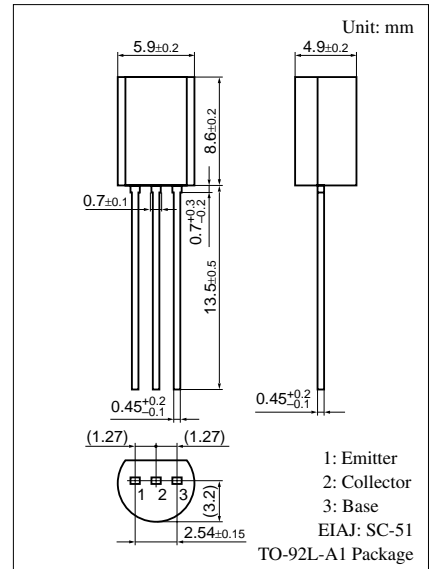
For low-frequency power amplification and driver amplification
Complementary to 2SA0683 (2SA683), 2SA0684 (2SA684)

■ Features

- Low collector to emitter saturation voltage $V_{CE(sat)}$
- Complementary pair with 2SA0683 (2SA683), 2SA0684 (2SA684)

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit	
Collector to base voltage	2SC1383	V_{CBO}	30	V
	2SC1384		60	
Collector to emitter voltage	2SC1383	V_{CEO}	25	V
	2SC1384		50	
Emitter to base voltage	V_{EBO}	5	V	
Peak collector current	I_{CP}	1.5	A	
Collector current	I_C	1	A	
Collector power dissipation	P_C	1	W	
Junction temperature	T_j	150	$^\circ\text{C}$	
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$	



■ Electrical Characteristics $T_a = 25^\circ\text{C}$

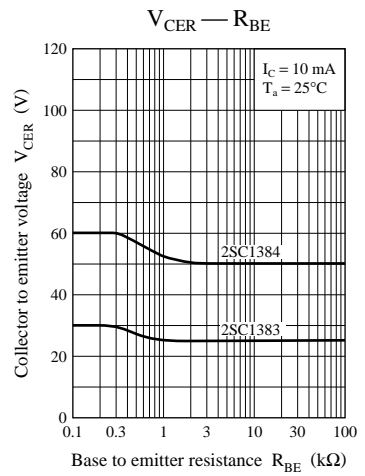
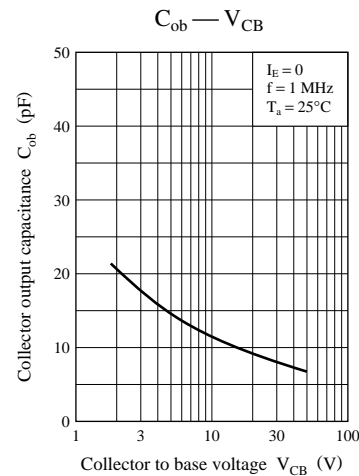
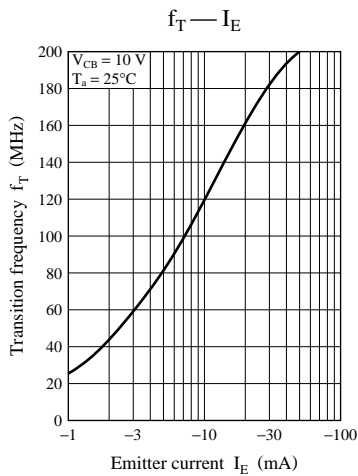
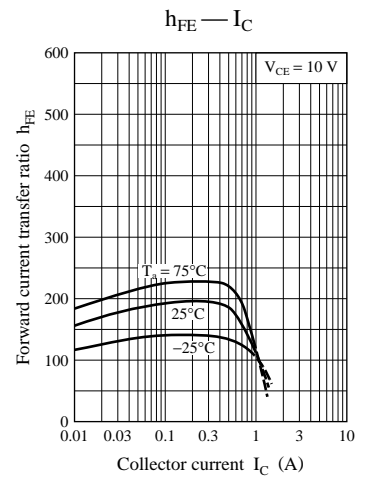
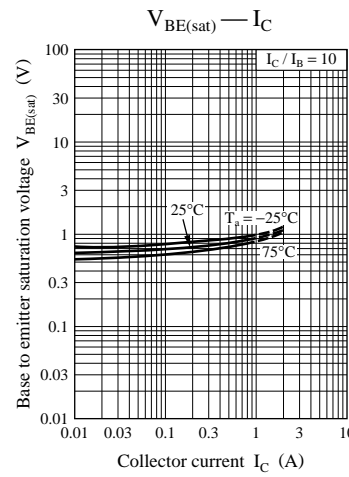
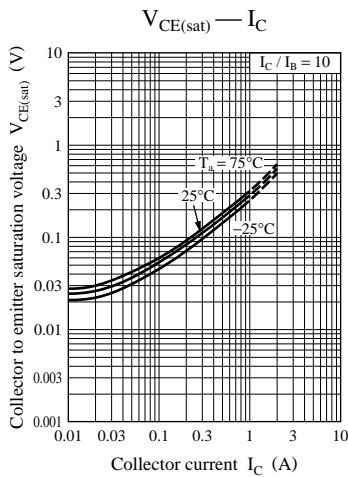
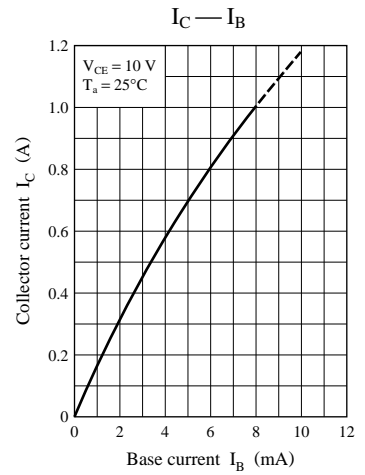
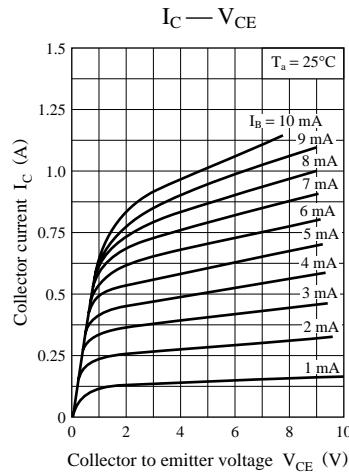
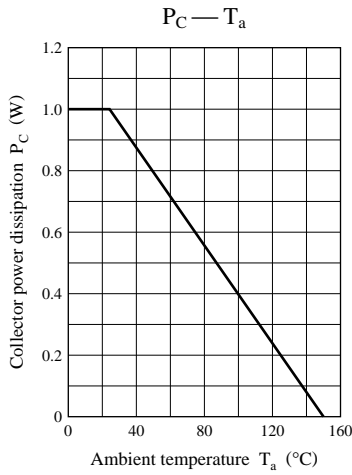
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 20\text{ V}, I_E = 0$			0.1	μA
Collector to base voltage	2SC1383	$I_C = 10\ \mu\text{A}, I_E = 0$	30			V
	2SC1384		60			
Collector to emitter voltage	2SC1383	$I_C = 2\text{ mA}, I_B = 0$	25			V
	2SC1384		50			
Emitter to base voltage	V_{EBO}	$I_E = 10\ \mu\text{A}, I_C = 0$	5			V
Forward current transfer ratio *1	h_{FE1} *2	$V_{CE} = 10\text{ V}, I_C = 500\text{ mA}$	85	160	340	
	h_{FE2}	$V_{CE} = 5\text{ V}, I_B = 1\text{ A}$	50	100		
Collector to emitter saturation voltage *1	$V_{CE(sat)}$	$I_C = 500\text{ mA}, I_B = 50\text{ mA}$		0.2	0.4	V
Base to emitter saturation voltage *1	$V_{BE(sat)}$	$I_C = 500\text{ mA}, I_B = 50\text{ mA}$		0.85	1.2	V
Transition frequency	f_T	$V_{CB} = 10\text{ V}, I_E = -50\text{ mA}, f = 200\text{ MHz}$		200		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$		11	20	pF

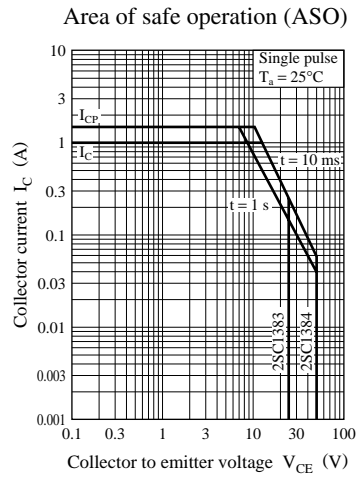
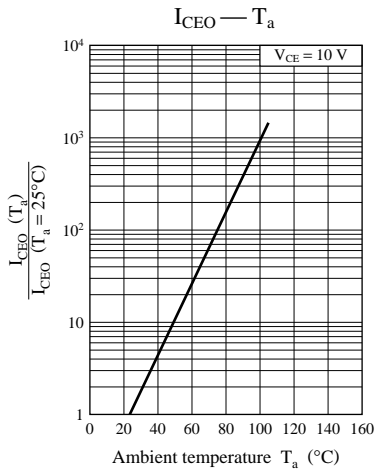
Note) *1: Pulse measurement

*2: h_{FE} Rank classification

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

Note) The part numbers in the parenthesis show conventional part number.





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