

2SC1383, 2SC1384

Silicon NPN epitaxial planer type

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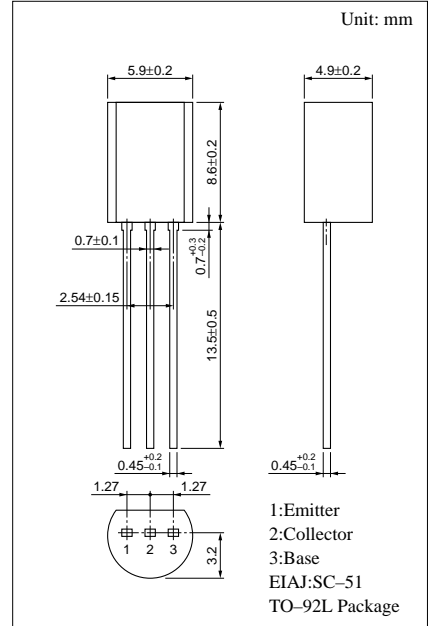
For low-frequency power amplification and driver amplification
 Complementary to 2SA683 and 2SA684

■ Features

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

■ Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Ratings	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	°C
Storage temperature		T_{stg}	-55 ~ +150	°C



■ Electrical Characteristics (Ta=25°C)

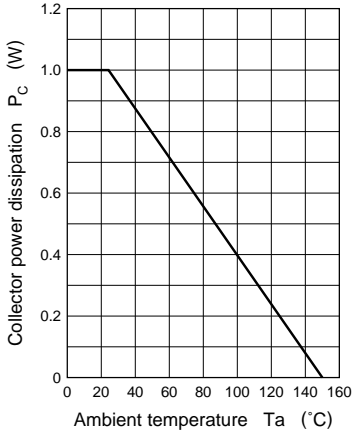
Parameter		Symbol	Conditions	min	typ	max	Unit
Collector cutoff current		I_{CBO}	$V_{CB} = 20V, I_E = 0$			0.1	μA
Collector to base voltage	2SC1383	V_{CBO}	$I_C = 10\mu A, I_E = 0$	30			V
	2SC1384			60			
Collector to emitter voltage	2SC1383	V_{CEO}	$I_C = 2mA, I_B = 0$	25			V
	2SC1384			50			
Emitter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

*2 Pulse measurement

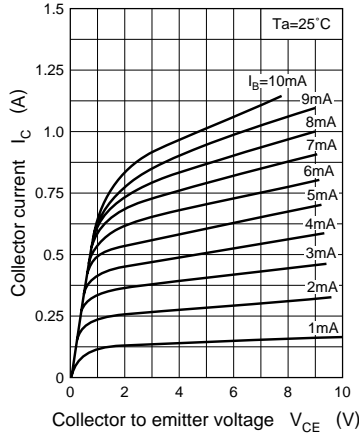
*1 h_{FE1} Rank classification

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

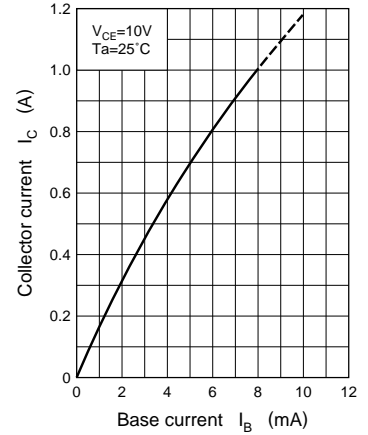
$P_C - T_a$



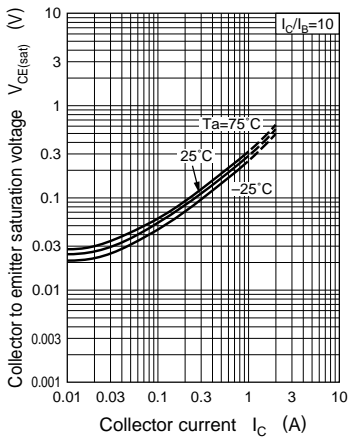
$I_C - V_{CE}$



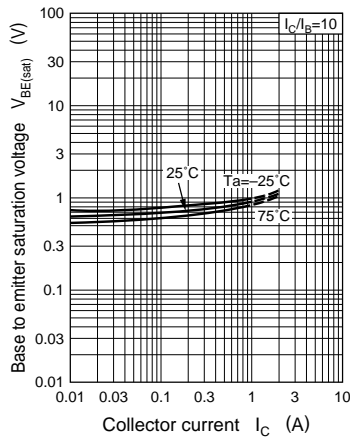
$I_C - I_B$



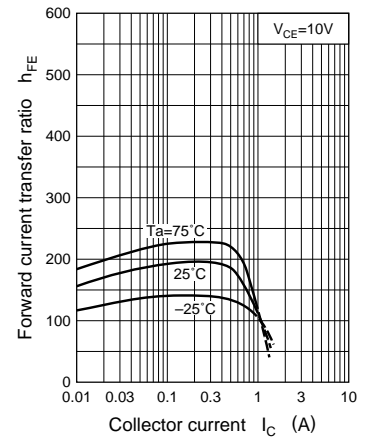
$V_{CE(sat)} - I_C$



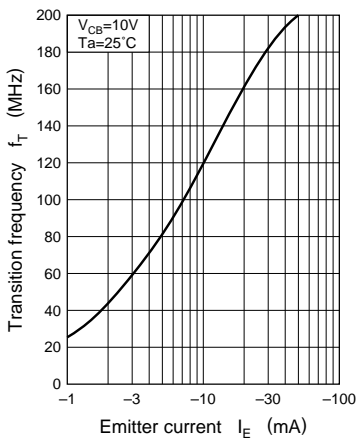
$V_{BE(sat)} - I_C$



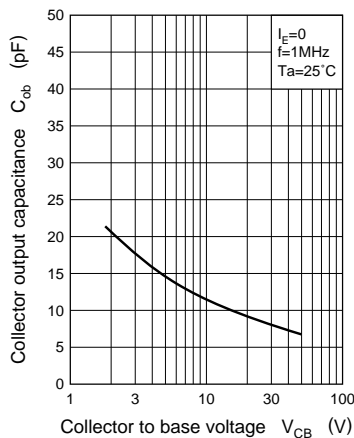
$h_{FE} - I_C$



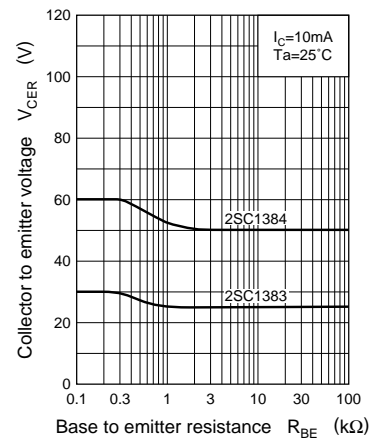
$f_T - I_E$



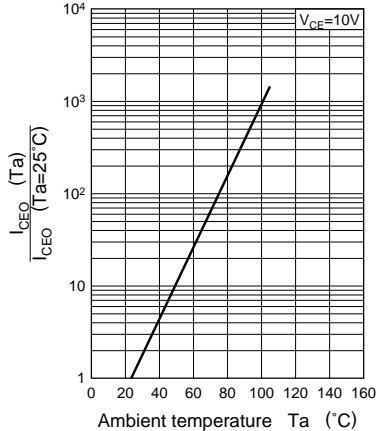
$C_{ob} - V_{CB}$



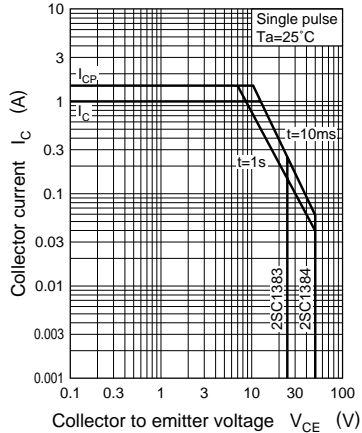
$V_{CER} - R_{BE}$



$I_{CEO} - T_a$



Area of safe operation (ASO)



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