

2SA683, 2SA684

Silicon PNP epitaxial planer type

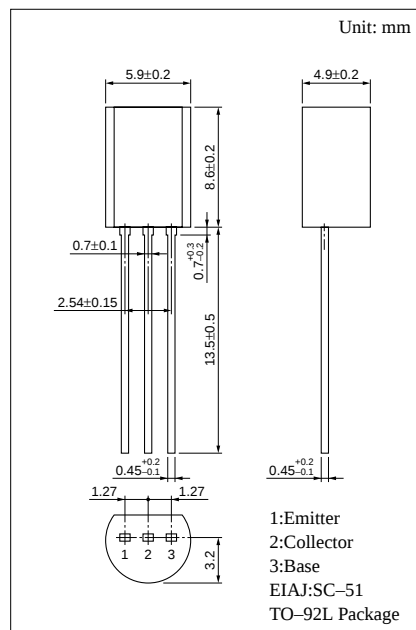
For low-frequency power amplification and driver amplification
Complementary to 2SC1383 and 2SC1384

Features

- Complementary pair with 2SC1383 and 2SC1384.
- Allowing supply with the radial tapering.

Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Ratings	Unit
Collector to base voltage	2SA683	V_{CBO}	-30	V
	2SA684		-60	
Collector to emitter voltage	2SA683	V_{CEO}	-25	V
	2SA684		-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



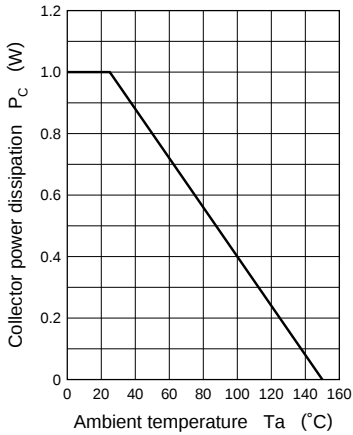
Electrical Characteristics (Ta=25°C)

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	2SA683	V_{CBO}	$I_C = -10\mu A, I_E = 0$	-30			V
	2SA684			-60			
Collector to emitter voltage	2SA683	V_{CEO}	$I_C = -2mA, I_B = 0$	-25			V
	2SA684			-50			
Emitter to base voltage		V_{EBO}	$I_E = -10\mu A, I_C = 0$	-5			V
Forward current transfer ratio		h_{FE1}^*	$V_{CE} = -10V, I_C = -500mA$	85		340	
		h_{FE2}	$V_{CE} = -5V, I_C = -1A$	50			
Collector to emitter saturation voltage		$V_{CE(sat)}$	$I_C = -500mA, I_B = -50mA$		-0.2	-0.4	V
Base to emitter saturation voltage		$V_{BE(sat)}$	$I_C = -500mA, I_B = -50mA$		-0.85	-1.2	V
Transition frequency		f_T	$V_{CB} = -10V, I_E = 50mA, f = 200MHz$		200		MHz
Collector output capacitance		C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$		20	30	pF

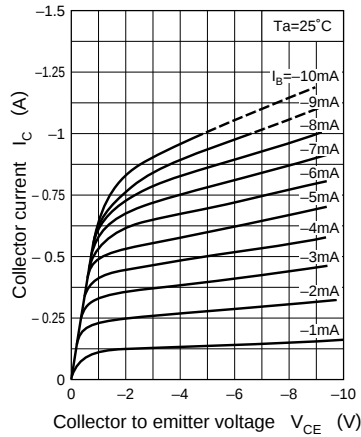
* h_{FE1} Rank classification

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

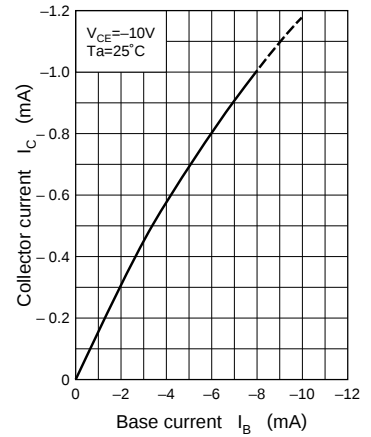
$P_C - T_a$



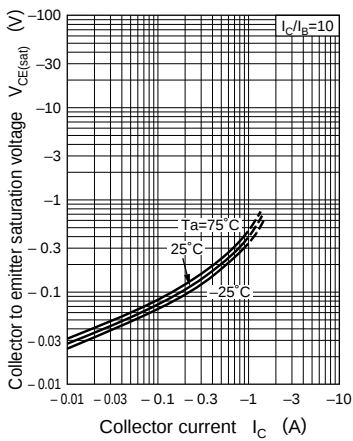
$I_C - V_{CE}$



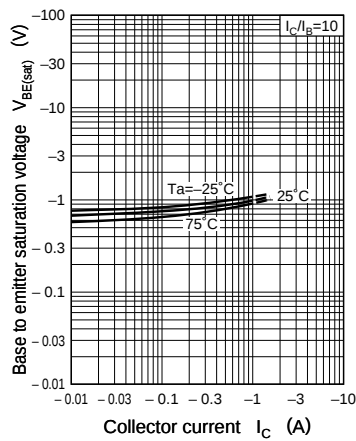
$I_C - I_B$



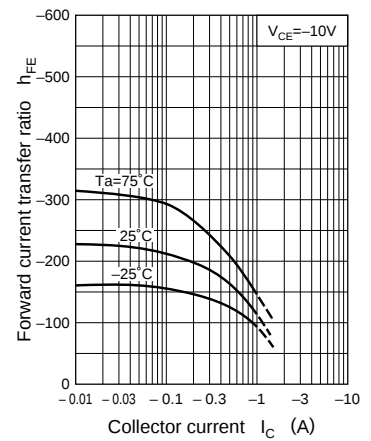
$V_{CE(sat)} - I_C$



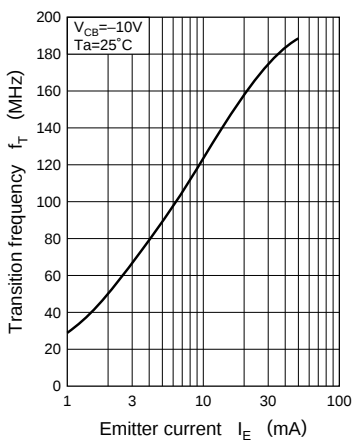
$V_{BE(sat)} - I_C$



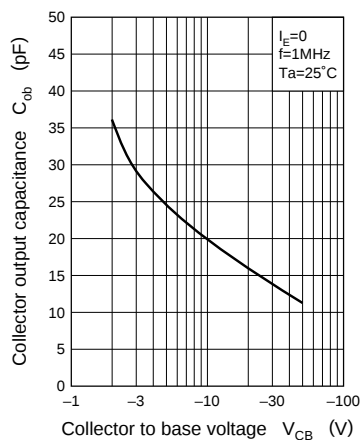
$h_{FE} - I_C$



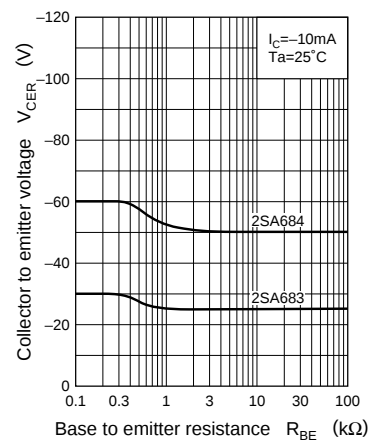
$f_T - I_E$



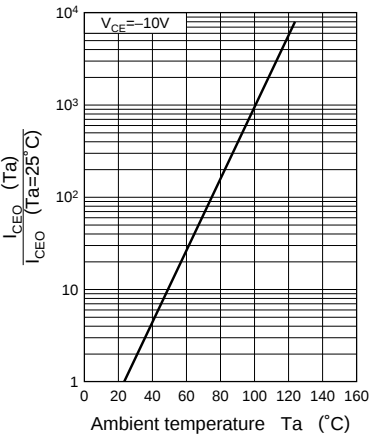
$C_{ob} - V_{CB}$



$V_{CER} - R_{BE}$



$I_{CEO} - T_a$



Area of safe operation (ASO)

