

# 2SA683, 2SA684

Silicon PNP epitaxial planer type

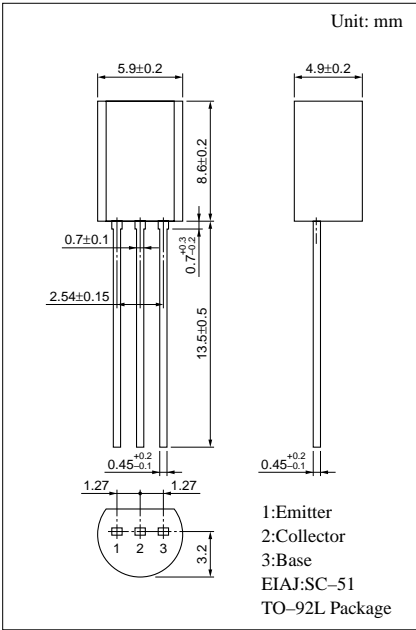
For low-frequency power amplification and driver amplification  
Complementary to 2SC1383 and 2SC1384

## Features

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

## 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

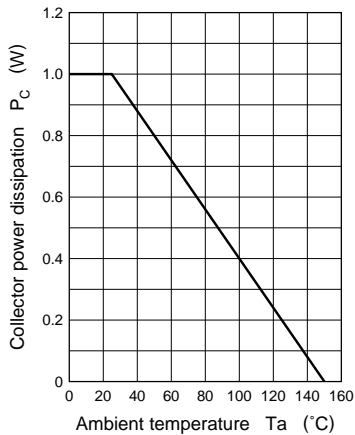
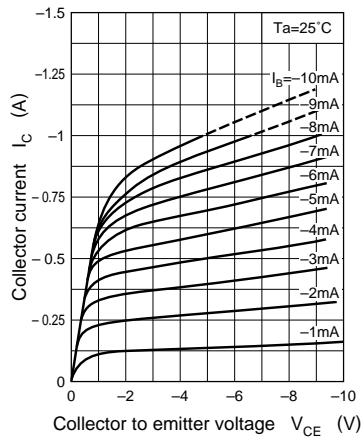
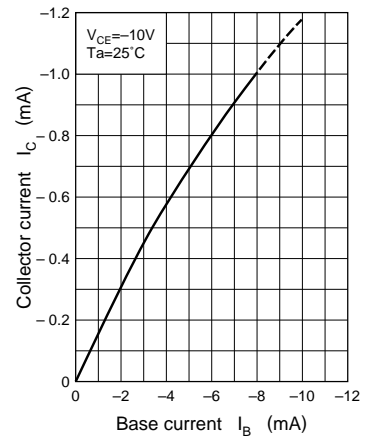
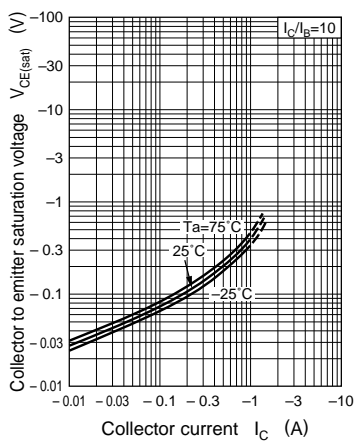
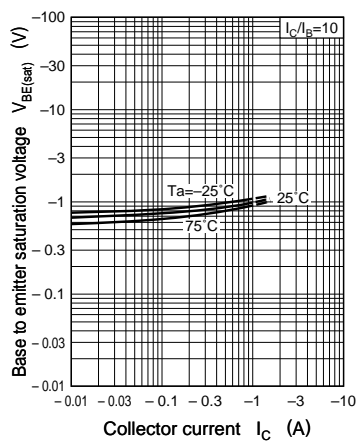
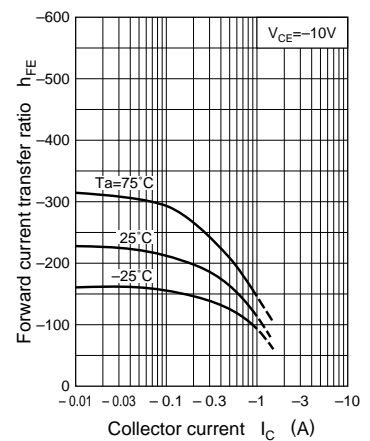
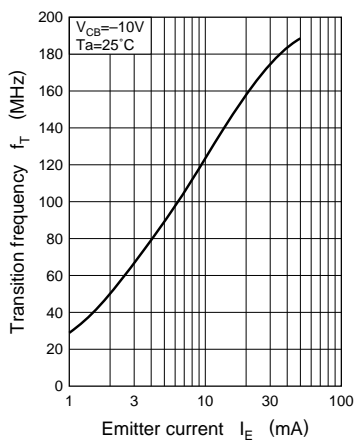
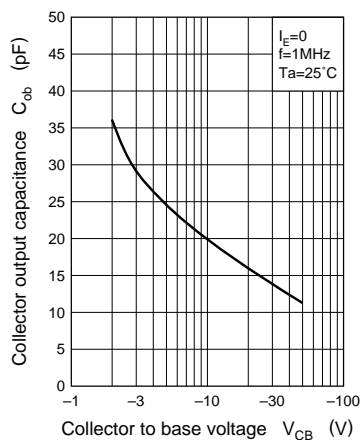


## Electrical Characteristics (Ta=25°C)

Parameter		Symbol	Conditions	min	typ	max	Unit
Collector cutoff current		$I_{CBO}$	$V_{CB} = -20V, I_E = 0$			-0.1	$\mu A$
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

$P_C - T_a$  $I_C - V_{CE}$  $I_C - I_B$  $V_{CE(sat)} - I_C$  $V_{BE(sat)} - I_C$  $h_{FE} - I_C$  $f_T - I_E$  $C_{ob} - V_{CB}$  $V_{CER} - R_{BE}$ 