

2SC3940, 2SC3940A

Silicon NPN epitaxial planer type

For low-frequency output amplification and driver amplification

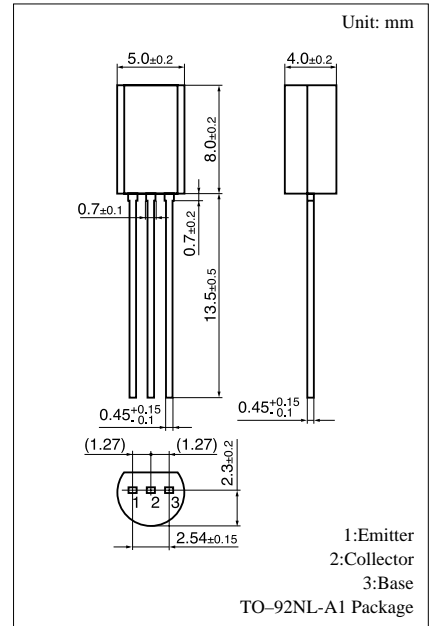
Complementary to 2SA1534 and 2SA1534A

Features

- Low collector to emitter saturation voltage $V_{CE(sat)}$.
- Allowing supply with the radial taping.

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V _{CBO}	2SC3940	30
		2SC3940A	60
Collector to emitter voltage	V _{CEO}	2SC3940	25
		2SC3940A	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)

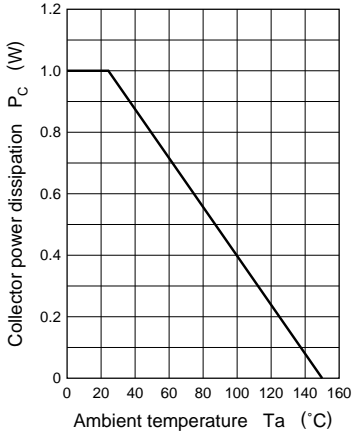
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I _{CBO}	V _{CB} = 20V, I _E = 0			0.1	μA
Collector to base voltage	V _{CBO}	I _C = 10μA, I _E = 0	2SC3940	30		V
			2SC3940A	60		
Collector to emitter voltage	V _{CEO}	I _C = 2mA, I _B = 0	2SC3940	25		V
			2SC3940A	50		
Emitter to base voltage	V _{EBO}	I _E = 10μA, I _C = 0	5		V	
Forward current transfer ratio	h _{FE1} ^{*1}	V _{CE} = 10V, I _C = 500mA ^{*2}	85		340	
	h _{FE2}	V _{CE} = 5V, I _B = 1A ^{*2}	50			
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 _B = 500mA, I _a = 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

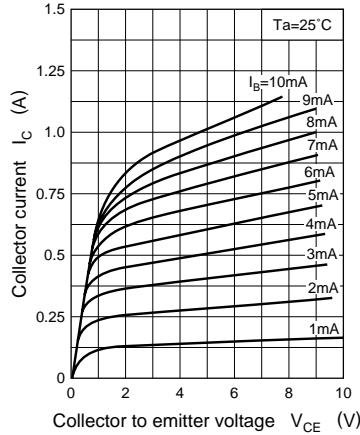
^{*1}h_{FE1} Rank classification

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

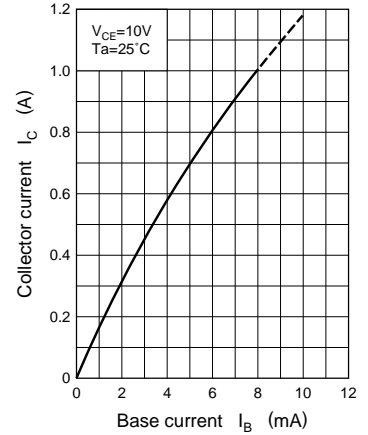
$P_C - T_a$



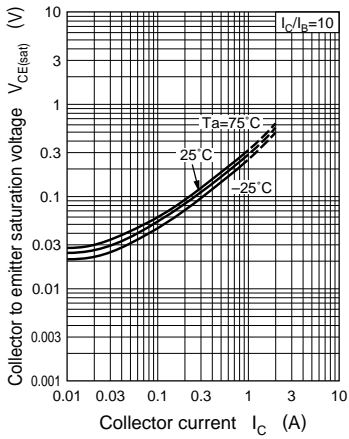
$I_C - V_{CE}$



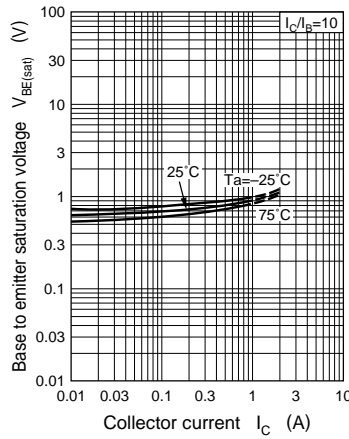
$I_C - I_B$



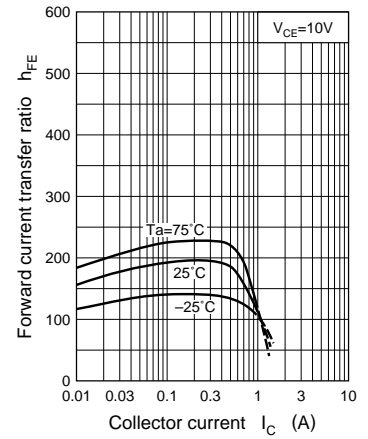
$V_{CE(sat)} - I_C$



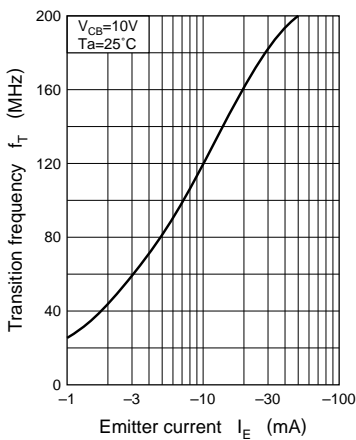
$V_{BE(sat)} - I_C$



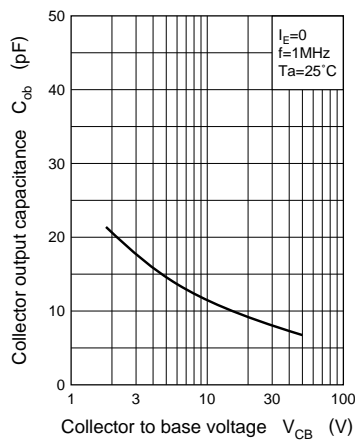
$h_{FE} - I_C$



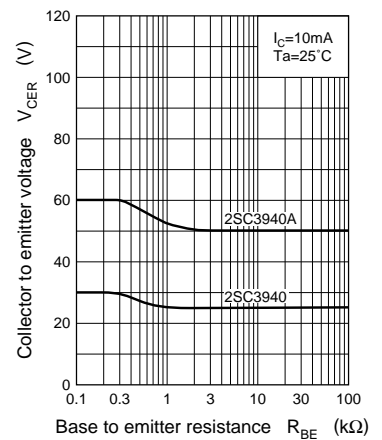
$f_T - I_E$



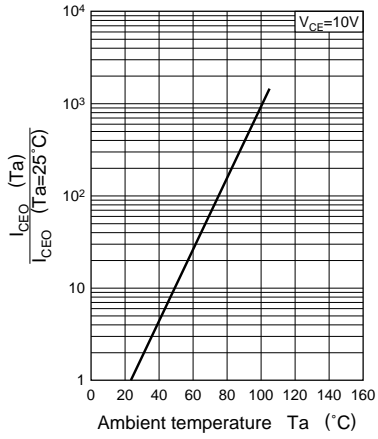
$C_{ob} - V_{CB}$



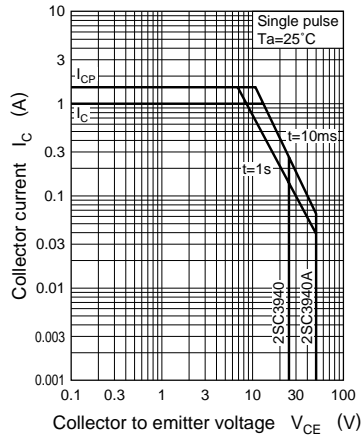
$V_{CER} - R_{BE}$



$I_{CEO} - T_a$



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