

2SC3934

Silicon NPN epitaxial planer type

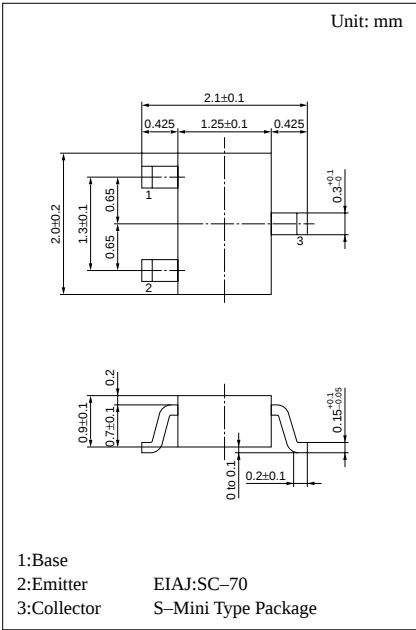
For high-frequency wide-band low-noise amplification

Features

- High transition frequency f_T .
- S-Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

Absolute Maximum Ratings (Ta=25°C)

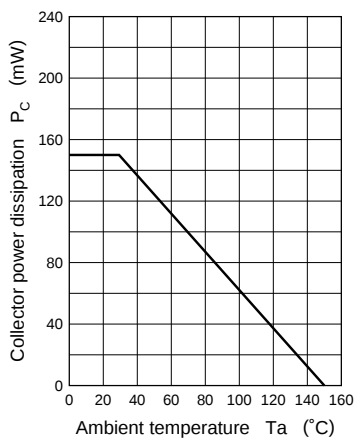
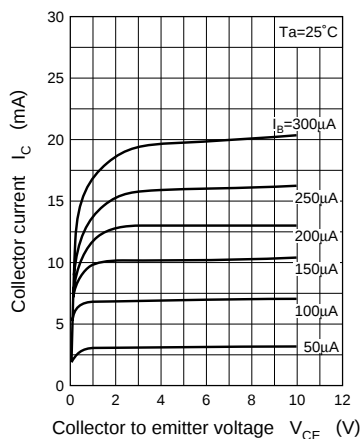
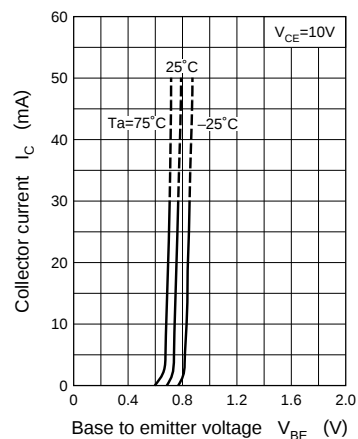
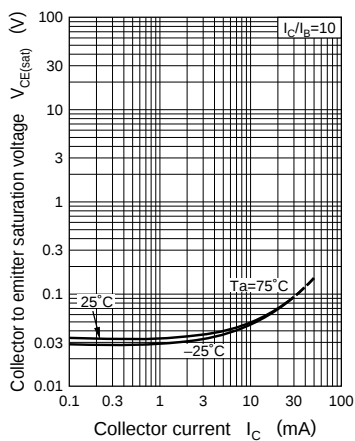
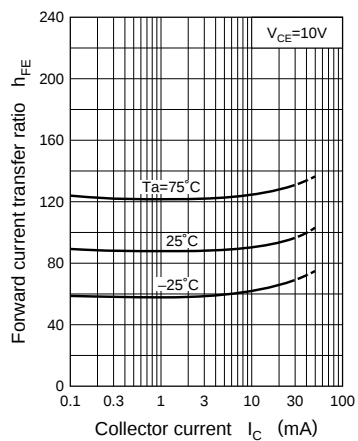
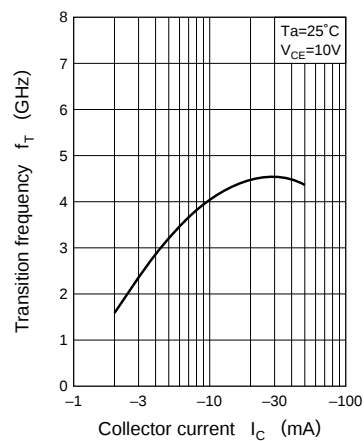
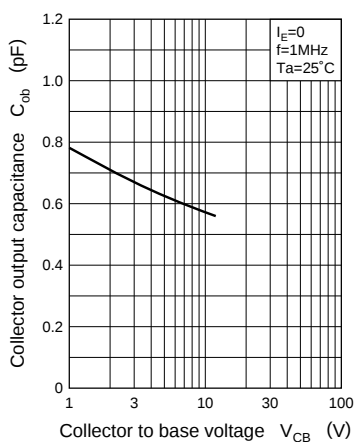
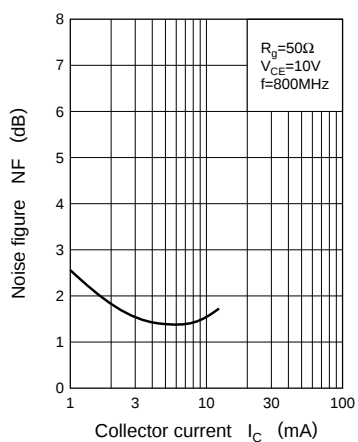
Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	15	V
Collector to emitter voltage	V_{CEO}	12	V
Emitter to base voltage	V_{EBO}	2.5	V
Peak collector current	I_{CP}	50	mA
Collector current	I_C	30	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 ~ +150	°C



Marking symbol : 1U

Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 10V, I_E = 0$			100	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 2V, I_C = 0$			1	μA
Forward current transfer ratio	h_{FE}	$V_{CE} = 10V, I_C = 10mA$	40			
Transition frequency	f_T	$V_{CE} = 10V, I_C = 10mA, f = 800MHz$		4.5		GHz
Collector output capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$			1.2	pF
Foward transfer gain	$ S_{21e} ^2$	$V_{CE} = 10V, I_C = 20mA, f = 800MHz$	9	12		dB
Maximum unilateral power gain	GUM	$V_{CE} = 10V, I_C = 20mA, f = 800MHz$	12	14		dB
Noise figure	NF	$V_{CE} = 10V, I_C = 5mA, f = 800MHz$		1.3	2.5	dB

$P_C - T_a$  $I_C - V_{CE}$  $I_C - V_{BE}$  $V_{CE(sat)} - I_C$  $h_{FE} - I_C$  $f_T - I_C$  $C_{ob} - V_{CB}$  $NF - I_C$  S_{11}, S_{22} 