

2SC4809

Silicon NPN epitaxial planer type

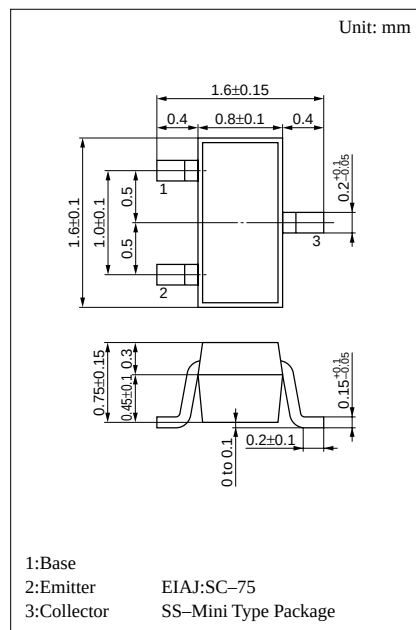
For high-frequency amplification/oscillation/mixing

Features

- High transition frequency f_T .
- Small collector output capacitance C_{ob} and common base reverse transfer capacitance C_{rb} .
- SS-Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing.

Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	15	V
Collector to emitter voltage	V_{CEO}	10	V
Emitter to base voltage	V_{EBO}	3	V
Collector current	I_C	50	mA
Collector power dissipation	P_C	125	mW
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature	T_{stg}	$-55 \sim +125$	$^\circ\text{C}$



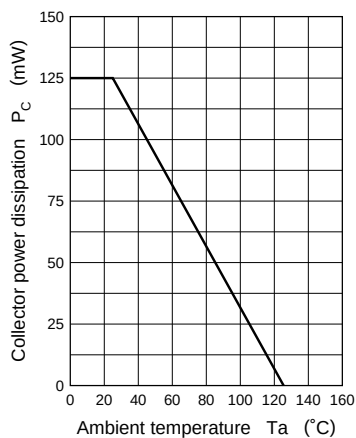
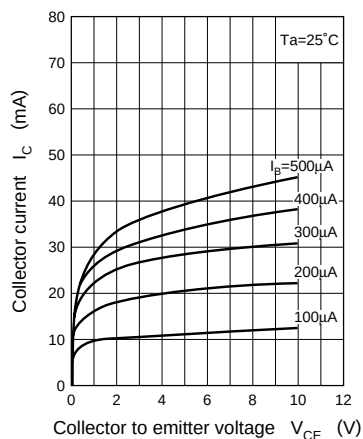
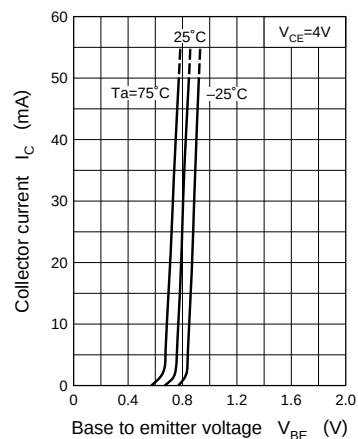
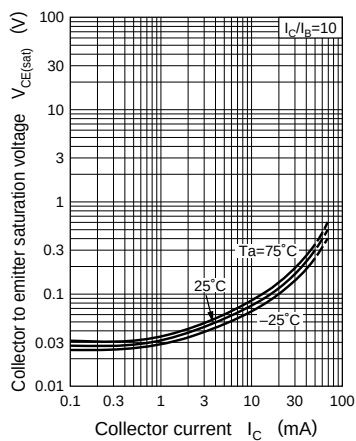
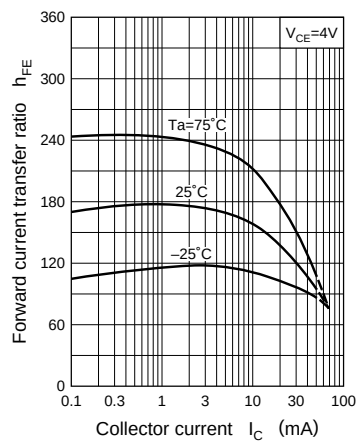
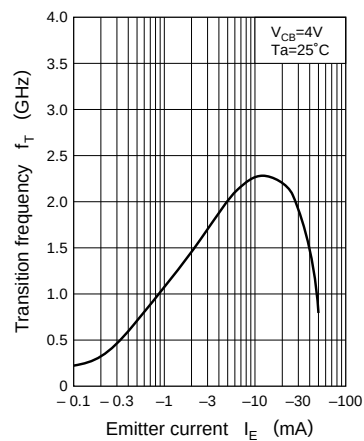
Marking symbol : 1S

Electrical Characteristics ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 10\text{V}, I_E = 0$			1	μA
Collector to emitter voltage	V_{CEO}	$I_C = 2\text{mA}, I_B = 0$	10			V
Emitter to base voltage	V_{EBO}	$I_E = 10\mu\text{A}, I_C = 0$	3			V
Forward current transfer ratio	h_{FE}^*	$V_{CE} = 4\text{V}, I_C = 5\text{mA}$	75		400	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 20\text{mA}, I_B = 4\text{mA}$			0.5	V
Transition frequency	f_T	$V_{CB} = 4\text{V}, I_E = -5\text{mA}, f = 200\text{MHz}$	1.4	1.9	2.7	GHz
Collector output capacitance	C_{ob}	$V_{CB} = 4\text{V}, I_E = 0, f = 1\text{MHz}$		1.4		pF
Base time constant	$\tau_{bb}' \cdot C_C$	$V_{CB} = 4\text{V}, I_E = -5\text{mA}, f = 31.9\text{MHz}$		11		PS
Common emitter reverse transfer capacitance	C_{rb}	$V_{CB} = 4\text{V}, I_E = 0, f = 1\text{MHz}$		0.45		pF
h_{FE} ratio		$V_{CE} = 4\text{V}, I_C = 100\mu\text{A}$ $V_{CE} = 4\text{V}, I_C = 5\text{mA}$	0.75		1.6	

* h_{FE} Rank classification

Rank	P	Q	R
h_{FE}	75 ~ 130	110 ~ 220	200 ~ 400
Marking Symbol	1SP	1SQ	1SR

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