

Features

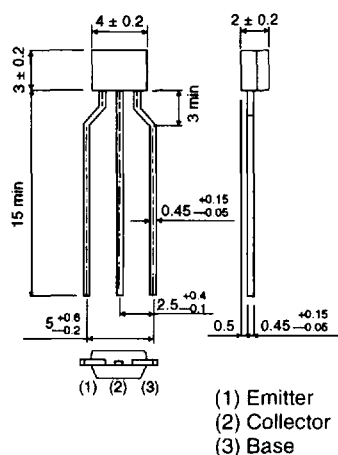
- available in SPT (SC-72) package
- high collector-to-base voltage, typically $V_{CEO} = 120\text{ V}$
- low noise, typically $NF = 0.2\text{ dB}$

Applications

- high voltage, low frequency, low noise amplifier

Dimensions (Units : mm)

2SC2389S (SPT)



Absolute maximum ratings ($T_a = 25^\circ\text{C}$)

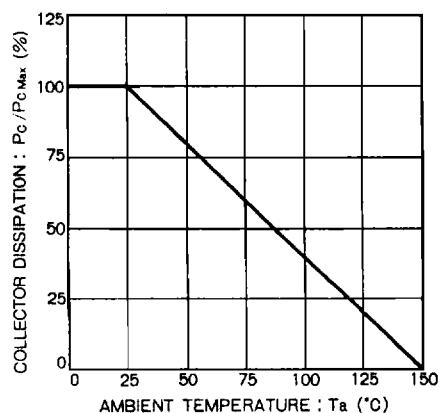
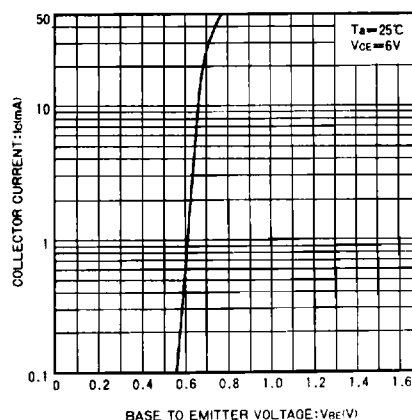
Parameter	Symbol	Limits	Unit
Collector-to-base voltage	V_{CBO}	120	V
Collector-to-emitter voltage	V_{CEO}	120	V
Emitter-to-base voltage	V_{EBO}	5	V
Collector current	I_C	50	mA
Collector dissipation	P_C	300	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	$-55 \sim +150$	$^\circ\text{C}$

Electrical characteristics (unless otherwise noted, $T_a = 25^\circ\text{C}$)

Parameter	Symbol	Min	Typical	Max	Unit	Conditions
Collector-to-base breakdown voltage	BV_{CBO}	120			V	$I_C = 50\ \mu\text{A}$
Collector-to-emitter breakdown voltage	BV_{CEO}	120			V	$I_C = 1\ \text{mA}$
Emitter-to-base breakdown voltage	BV_{EBO}	5			V	$I_E = 50\ \mu\text{A}$
Collector cutoff current	I_{CBO}			0.5	μA	$V_{CB} = 100\ \text{V}$
Emitter cutoff current	I_{EBO}			0.5	μA	$V_{EB} = 4\ \text{V}$
DC current gain	h_{FE}	180		820		$V_{CE} = 6\ \text{V}$, $I_C = 2\ \text{mA}$
Collector-to-emitter saturation voltage	$V_{CE(sat)}$			0.5	V	$I_C / I_B = 10\ \text{mA}/1\ \text{mA}$
Transition frequency	f_T		140		MHz	$V_{CE} = 12\ \text{V}$, $I_E = -2\ \text{mA}$, $f = 100\ \text{MHz}$
Output capacitance	C_{ob}		2.5		pF	$V_{CB} = 12\ \text{V}$, $I_E = 0\ \text{A}$, $f = 1\ \text{MHz}$
Effective noise current	NV_1			150	mV	FLAT AMP ($G_V = 80\ \text{dB}$), $V_{CE} = 10\ \text{V}$, $I_C = 1\ \text{mA}$, $R_g = 100\ \text{k}\Omega$
Spike noise voltage	NV_2			14	dB	

 h_{FE} rankings

Item	R	S	E
h_{FE}	180 ~ 390	270 ~ 560	390 ~ 820

Electrical characteristic curves**Figure 1****Figure 2**

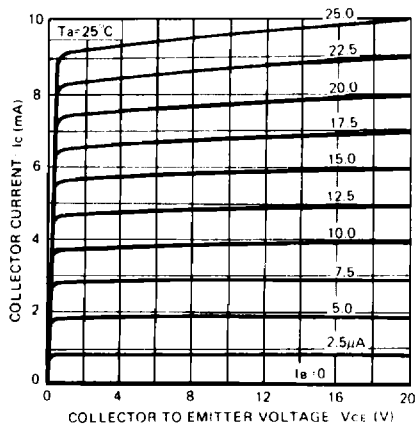


Figure 3

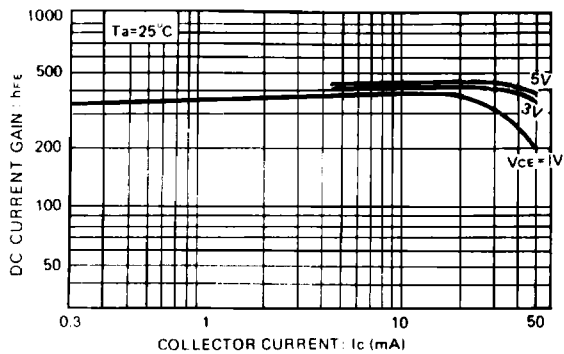


Figure 4

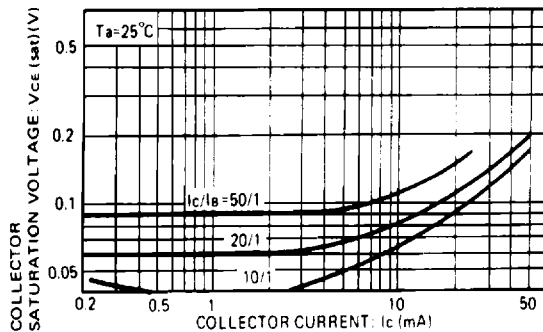


Figure 5

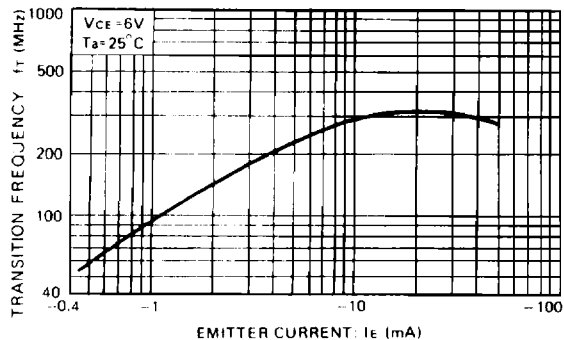


Figure 6

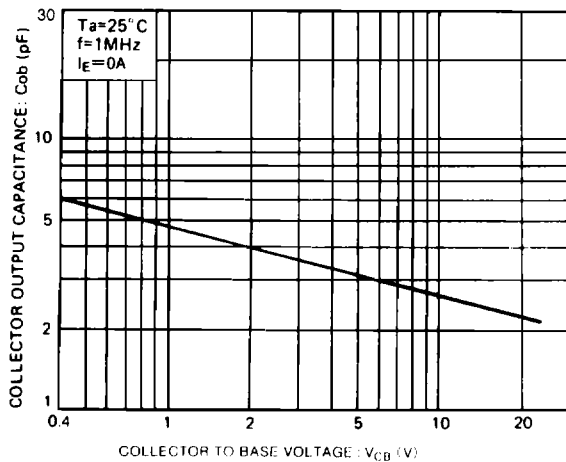


Figure 7

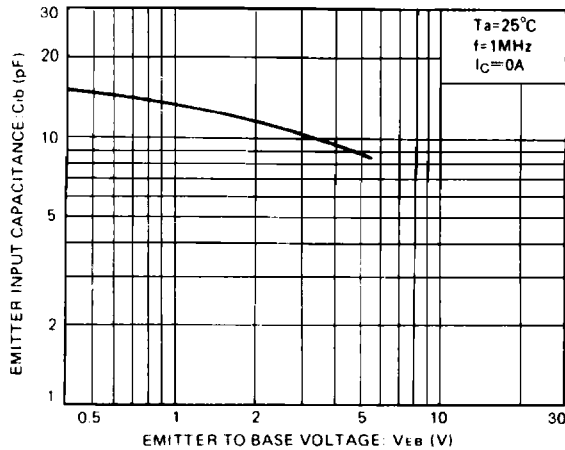


Figure 8

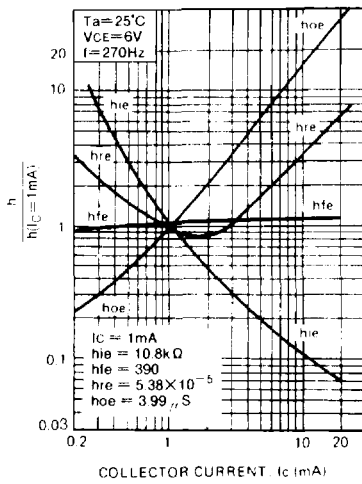


Figure 9

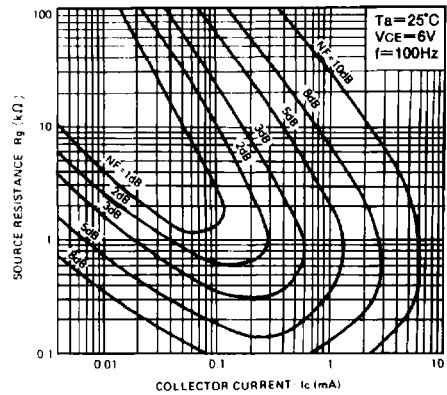


Figure 10

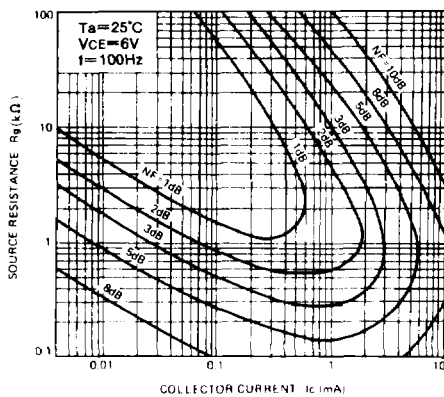


Figure 11

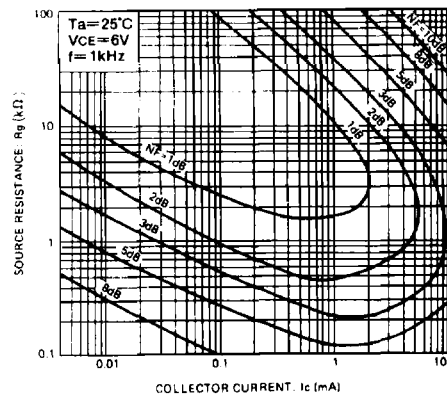


Figure 12

Ordering information

Package	Tape
Code	TP
Basic order quantity	5 000
2SC2389S	★
★ = Standard, ☆ = Semi-standard, * = Special order	