

2SC3829

Silicon NPN epitaxial planer type

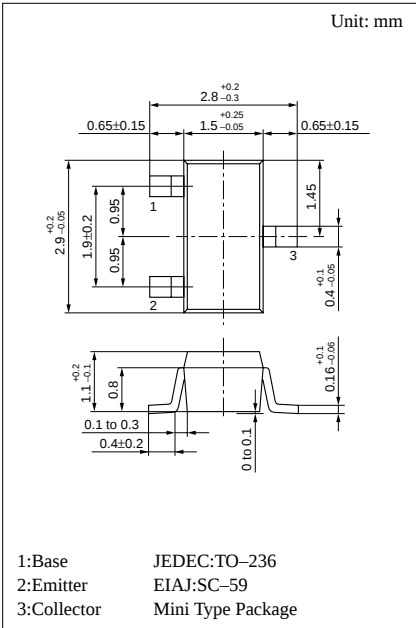
For UHF band low-noise amplification

Features

- Low noise figure NF.
- High gain.
- High transition frequency f_T .
- 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)

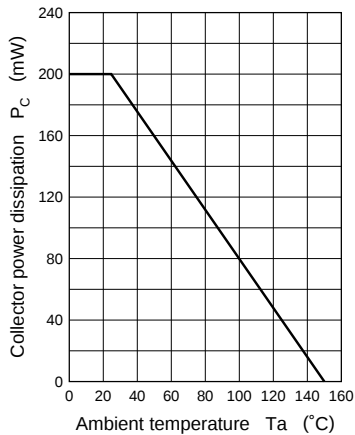
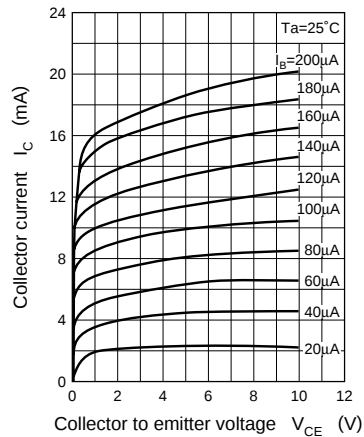
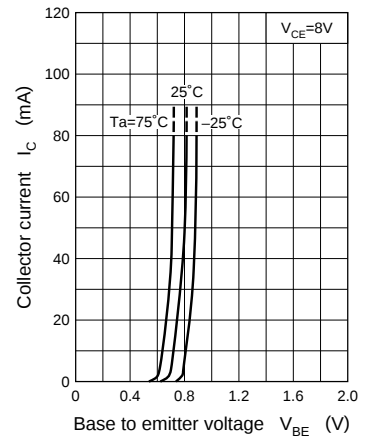
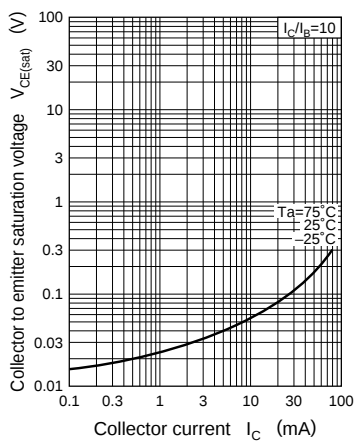
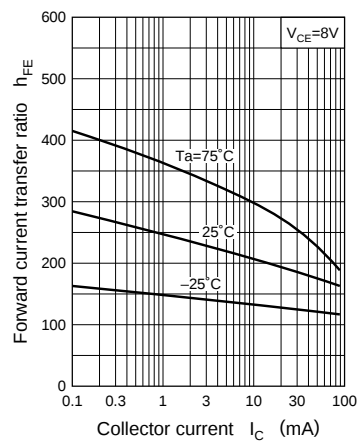
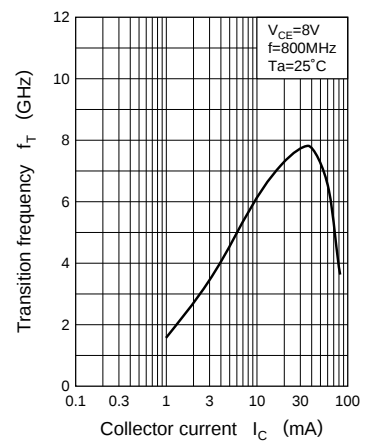
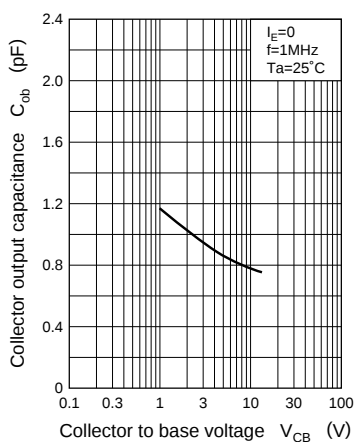
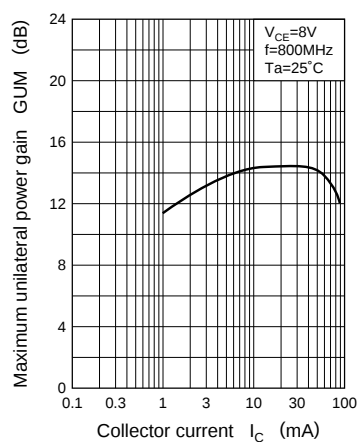
Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	15	V
Collector to emitter voltage	V_{CEO}	10	V
Emitter to base voltage	V_{EBO}	2	V
Collector current	I_C	80	mA
Collector power dissipation	P_C	200	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 ~ +150	°C



Marking symbol : 3M

Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 10V, I_E = 0$			1	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 2V, I_C = 0$			1	μA
Collector to base voltage	V_{CBO}	$I_C = 10\mu A, I_E = 0$	15			V
Collector to emitter voltage	V_{CEO}	$I_C = 100\mu A, I_B = 0$	10			V
Forward current transfer ratio	h_{FE}	$V_{CE} = 8V, I_C = 20mA$	50	150	300	
Transition frequency	f_T	$V_{CE} = 8V, I_C = 20mA, f = 800MHz$	5	6		GHz
Collector output capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$		0.7	1.2	pF
Foward transfer gain	$ S_{21e} ^2$	$V_{CE} = 8V, I_C = 20mA, f = 800MHz$	10	13.5		dB
Maximum unilateral power gain	GUM	$V_{CE} = 8V, I_C = 20mA, f = 800MHz$		15		dB
Noise figure	NF	$V_{CE} = 8V, I_C = 20mA, f = 800MHz$			2	dB

$P_C - T_a$  $I_C - V_{CE}$  $I_C - V_{BE}$  $V_{CE(\text{sat})} - I_C$  $h_{FE} - I_C$  $f_T - I_C$  $C_{ob} - V_{CB}$  $\text{GUM} - I_C$  $\text{NF} - I_C$ 