

2SC4239

Silicon NPN Epitaxial Planar Type

For high-frequency amplification, oscillation and mixing

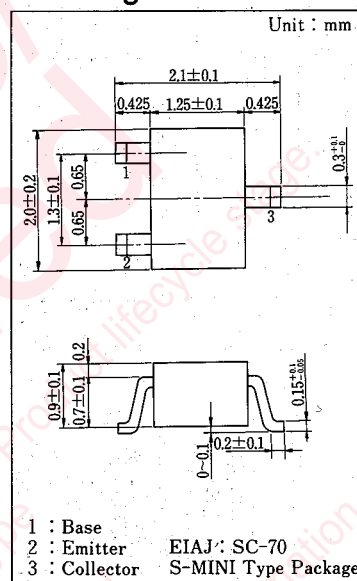
■ Features

- High transition frequency f_T
- An S-MINI type package that allows downsizing of equipment and automatic insertion by taping and magazine packaging

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

Item	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	15	V
Collector-Emitter Voltage	V_{CEO}	10	V
Emitter-Base Voltage	V_{EBO}	3	V
Collector Current	I_C	50	mA
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$

■ Package Dimensions



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

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector Cutoff Current	I_{CBO}	$V_{CBO}=10\text{V}, I_E=0$			1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=2\text{V}, I_C=0$			1	μA
Collector-Emitter Voltage	V_{CEO}	$I_C=2\text{mA}, I_B=0$			10	V
DC Current Gain	h_{FE}^*	$V_{CE}=4\text{V}, I_C=5\text{mA}$	75		300	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=20\text{mA}, I_B=4\text{mA}$			0.5	V
Transition Frequency	f_T	$V_{CB}=4\text{V}, I_E=5\text{mA}, f=200\text{MHz}$		2		GHz
Collector Capacitance	C_{ob}	$V_{CB}=4\text{V}, I_E=0, f=1\text{MHz}$		0.9		pF
Small-Signal Reverse Transfer Capacitance	C_{rb}	$V_{CB}=4\text{V}, I_E=0, f=1\text{MHz}$		0.35		pF
Base Time Constant	$r_{bb'} \cdot C_C$	$V_{CB}=4\text{V}, I_E=-5\text{mA}, f=31.9\text{MHz}$		18		PS

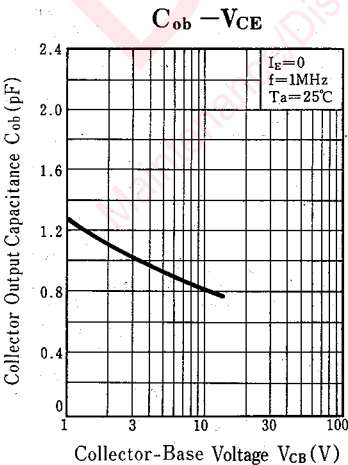
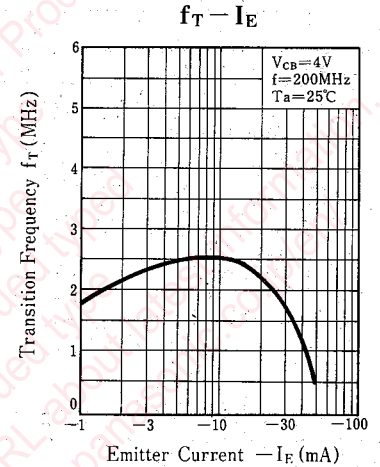
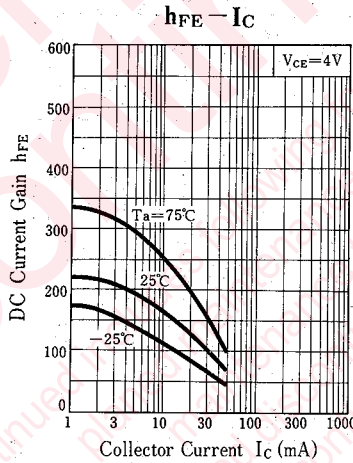
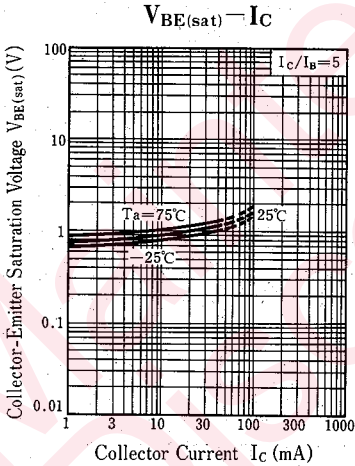
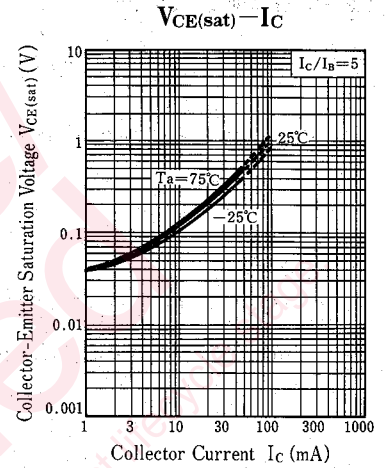
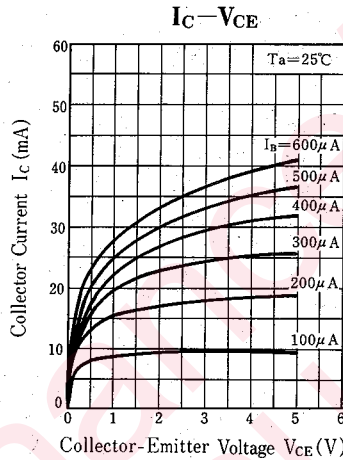
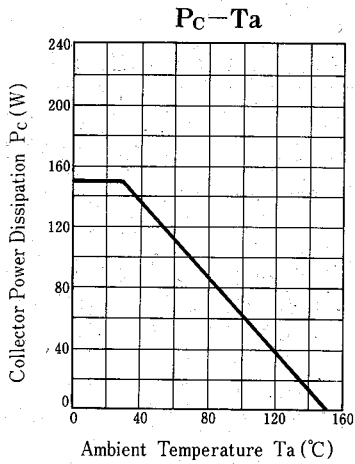
* h_{FE} Ranking

Rank	P	Q	R
h_{FE}	75~130	110~220	200~300

■ Type Name Marking

Type No. h_{FE} Ranking





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