

TOSHIBA Transistor Silicon NPN Epitaxial Planar Type

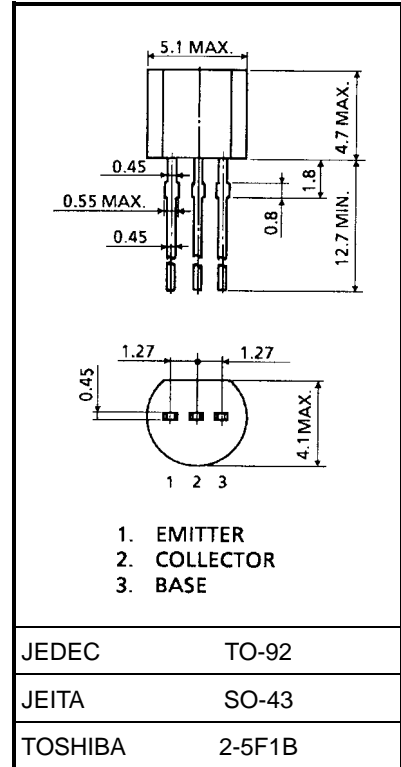
# 2SC2349

TV VHF Oscillator Applications

Unit: mm

## Maximum Ratings (Ta = 25°C)

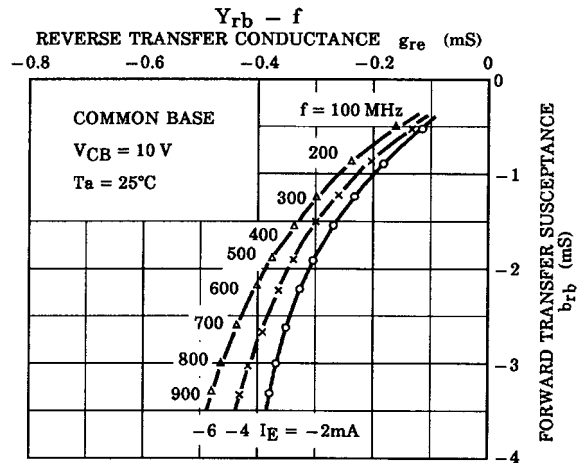
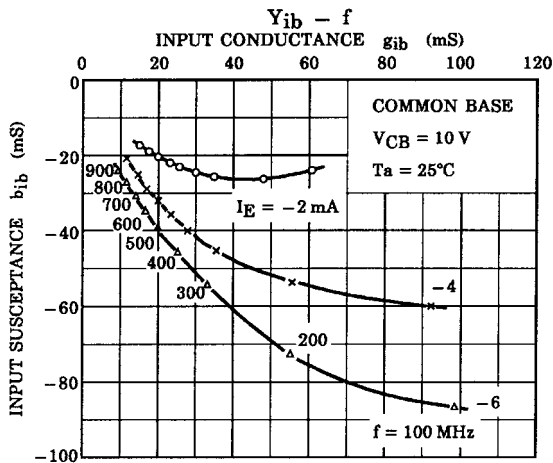
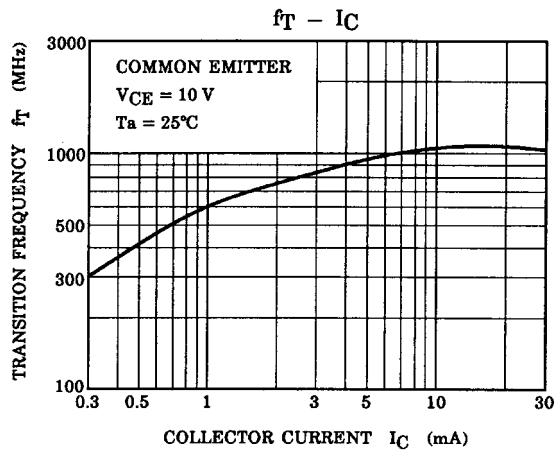
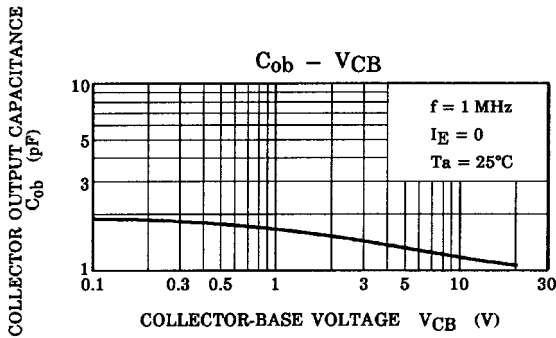
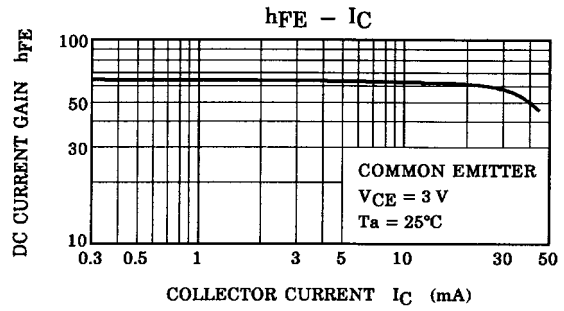
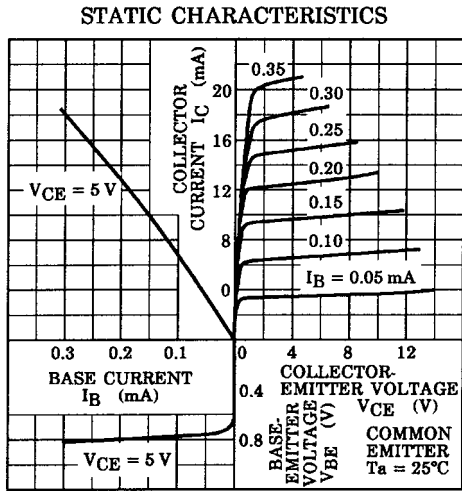
Characteristics	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	30	V
Collector-emitter voltage	$V_{CEO}$	15	V
Emitter-base voltage	$V_{EBO}$	3	V
Collector current	$I_C$	50	mA
Emitter current	$I_E$	-50	mA
Collector power dissipation	$P_C$	250	mW
Junction temperature	$T_j$	125	°C
Storage temperature range	$T_{stg}$	-55~125	°C

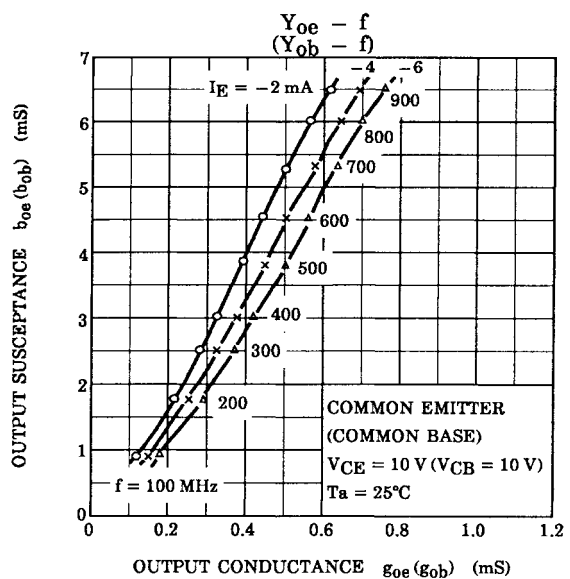
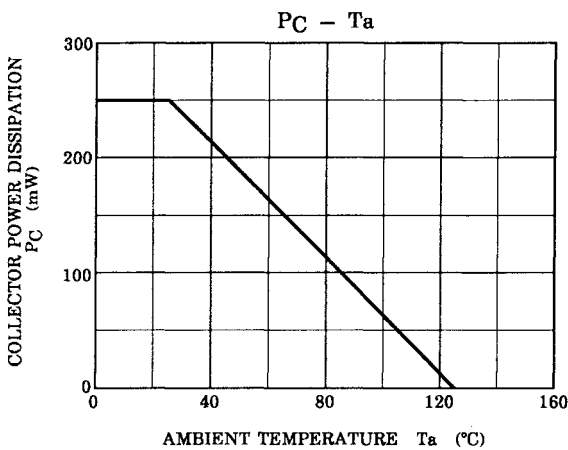
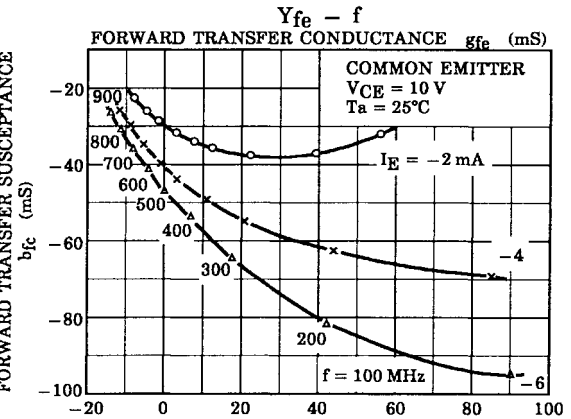
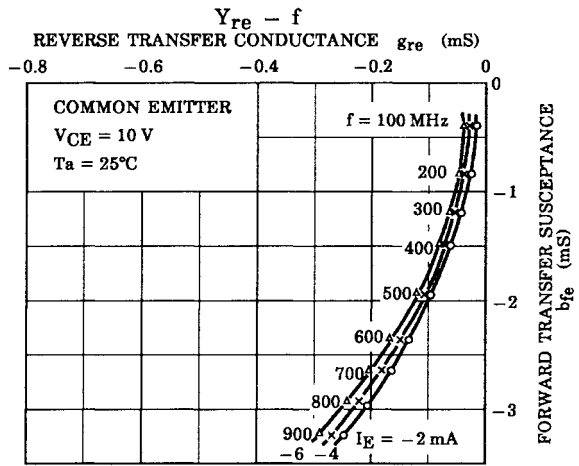
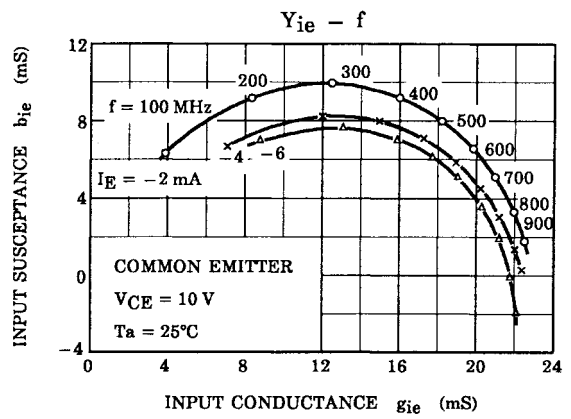
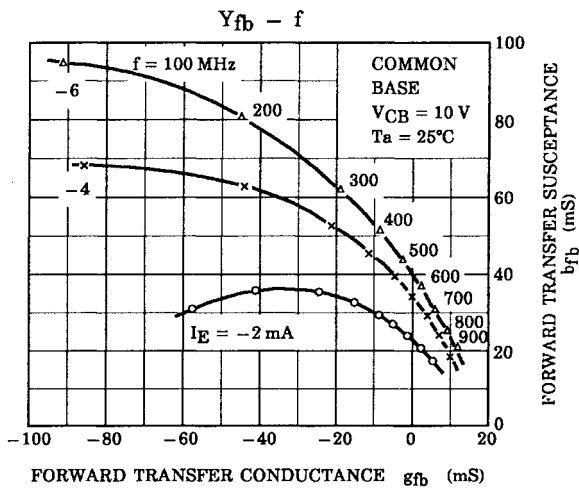


## Electrical Characteristics (Ta = 25°C)

Weight: 0.21 g (typ.)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = 15\text{ V}, I_E = 0$	—	—	0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 3\text{ V}, I_C = 0$	—	—	1.0	$\mu\text{A}$
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{ mA}, I_B = 0$	15	—	—	V
DC current gain	$h_{FE}$	$V_{CE} = 3\text{ V}, I_C = 8\text{ mA}$	20	—	—	
Transition frequency	$f_T$	$V_{CE} = 10\text{ V}, I_C = 8\text{ mA}$	650	—	—	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	1.2	1.5	pF
Collector-base time constant	$C_c \cdot f_{bb'}$	$V_{CB} = 10\text{ V}, I_C = 8\text{ mA}, f = 30\text{ MHz}$	—	—	20	ps





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