BF 271

SILICON PLANAR NPN

VIDEO IF AMPLIFIER

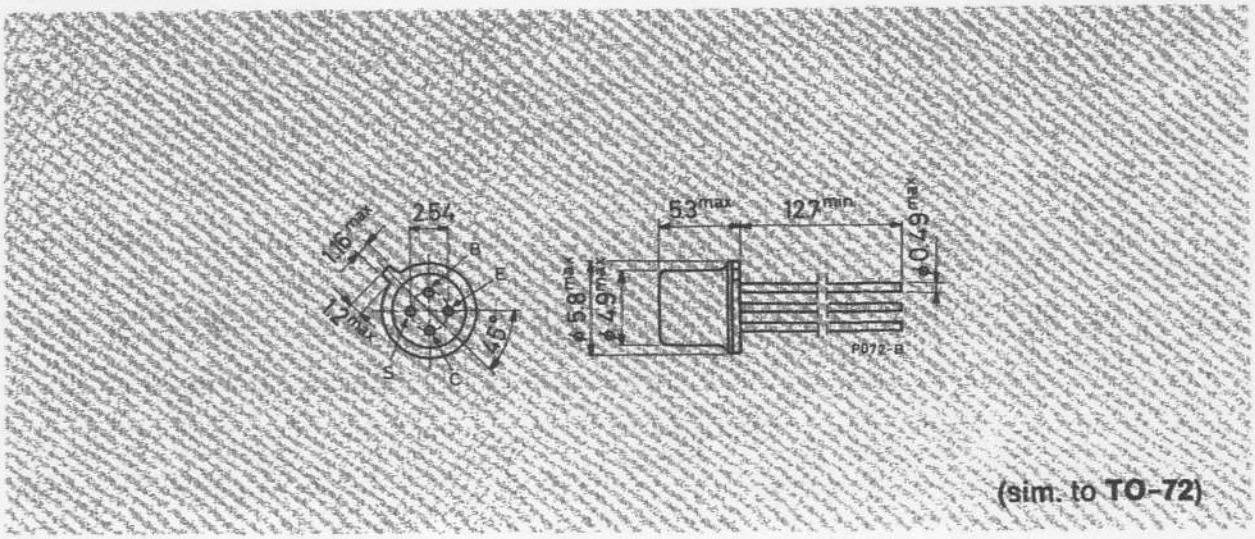
The BF 271 is a silicon planar NPN transistor in a TO-72 metal case. This device has been specifically designed for use in output stages of IF video amplifiers. It features high power gain, low feedback capacitance and excellent linearity.

ABSOLUTE MAXIMUM RATINGS

V_{CBO}	Collector-base voltage ($I_E = 0$)	30	V
V_{CEO}	Collector-emitter voltage ($I_B = 0$)	25	V
V_{EBO}	Emitter-base voltage ($I_C = 0$)	4	V
I_C	Collector current	25	mA
P_{tot}	Total power dissipation at $T_{amb} \leqslant 25°C$	250	mW
	at $T_{case} \leqslant 25°C$	430	mW
T_{stg}	Storage temperature	-55 to 200	°C
T_j	Junction temperature	200	°C

MECHANICAL DATA

Dimensions in mm



(sim. to TO-72)

BF 271

THERMAL DATA

$R_{th\ j\text{-}case}$	Thermal resistance junction-case	max	400	°C/W
$R_{th\ j\text{-}amb}$	Thermal resistance junction-ambient	max	700	°C/W

ELECTRICAL CHARACTERISTICS (T_{amb} = 25°C unless otherwise specified)

Parameter		Test conditions		Min.	Typ.	Max.	Unit
I_{CES}	Collector cutoff current (V_{BE} = 0)	V_{CE} = 10V				100	nA
$V_{(BR)CBO}$	Collector-base breakdown voltage (I_E = 0)	I_C = 10 μA		30			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage (I_B = 0)	I_C = 1 mA		25			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage (I_C = 0)	I_E = 10 μA		4			V
V_{BE}	Base-emitter voltage	I_C = 10 mA	V_{CE} = 5V		780		mV
h_{FE}*	DC current gain	I_C = 1 mA I_C = 10 mA	V_{CE} = 10V V_{CE} = 10V	 30	55 75		– –
f_T	Transition frequency	I_C = 10 mA	V_{CE} = 10V		900		MHz
$-C_{re}$	Reverse capacitance	I_C = 0 f = 1 MHz	V_{CE} = 10V		0.22		pF
G_{pe}	Power gain	I_C = 10 mA f = 36 MHz	V_{CE} = 10V	24	27		dB
g_{ie}	Input conductance	I_C = 10 mA f = 36 MHz	V_{CE} = 10V		4.8		mS
b_{ie}	Input susceptance	I_C = 10 mA f = 36 MHz	V_{CE} = 10V		5.2		mS
g_{fe}	Forward transconductance	I_C = 10 mA f = 36 MHz	V_{CE} = 10V		200		mS
b_{fe}	Forward transusceptance	I_C = 10 mA f = 36 MHz	V_{CE} = 10V		80		mS
g_{oe}	Output conductance	I_C = 10 mA f = 36 MHz	V_{CE} = 10V		80		μS
b_{oe}	Output susceptance	I_C = 10 mA f = 36 MHz	V_{CE} = 10V		380		μS

* Pulsed: pulse duration = 300 μs; duty cycle = 1%.