



WBFBP-03B Plastic-Encapsulate Transistors

TSA143TNND03 TRANSISTOR

DESCRIPTION

PNP Digital Transistor

FEATURES

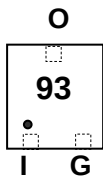
- 1) Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit).
- 2) The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input. They also have the advantage of almost completely eliminating parasitic effects.
- 3) Only the on/off conditions need to be set for operation, making device design easy.

APPLICATION

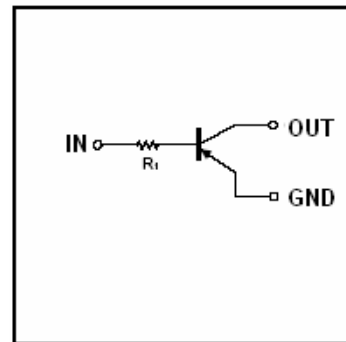
PNP Digital Transistor

For portable equipment:(i.e. Mobile phone,MP3, MD,CD-ROM, DVD-ROM, Note book PC, etc.)

MARKING: 93



equivalent circuit

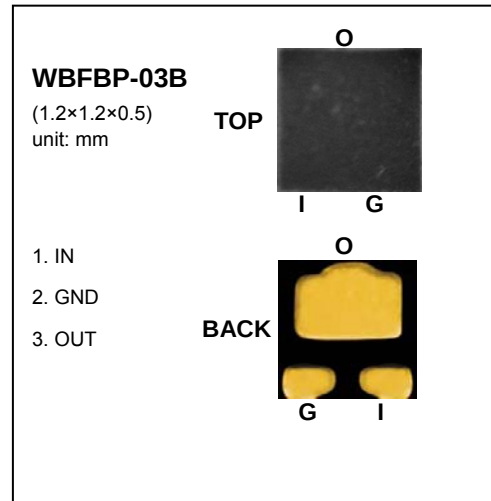


Absolute maximum ratings(Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	$V_{(BR)CBO}$	-50	V
Collector-emitter voltage	$V_{(BR)CEO}$	-50	V
Emitter-base voltage	$V_{(BR)EBO}$	-5	V
Collector current	I_C	-100	mA
Collector Power dissipation	P_C	150	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55~150	°C

Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ	Max.	Unit	Conditions
Collector-base breakdown voltage	$V_{(BR)CBO}$	-50			V	$I_C = -50\mu A$
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	-50			V	$I_C = -1mA$
Emitter-base breakdown voltage	$V_{(BR)EBO}$	-5			V	$I_E = -50\mu A$
Collector cut-off current	I_{CBO}			-0.5	μA	$V_{CB} = -50V$
Emitter cut-off current	I_{EBO}			-0.5	μA	$V_{EB} = -4V$
Collector-emitter saturation voltage	$V_{CE(sat)}$			-0.3	V	$I_C = -5mA, I_B = -0.25mA$
DC current transfer ratio	h_{FE}	100		600		$V_{CE} = -5V, I_C = -1mA$
Input resistance	R_i	3.29	4.7	6.11	K Ω	
Transition frequency	f_T		250		MHz	$V_{CE} = -10V, I_E = 5mA, f = 100MHz$



Typical Characteristics

TSA143TNND03

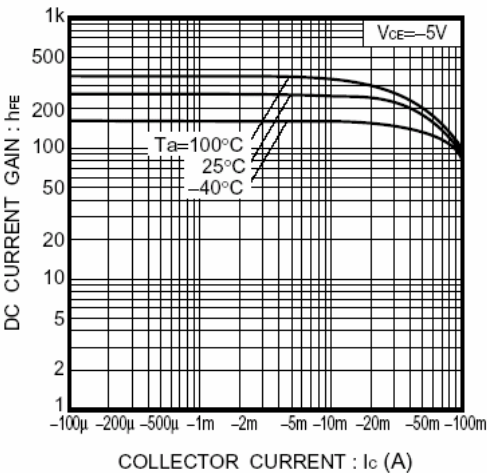


Fig.1 DC current gain vs. collector current

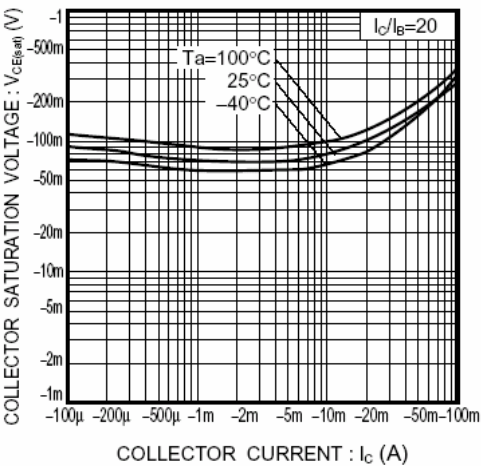


Fig.2 Collector-emitter saturation voltage vs. collector current