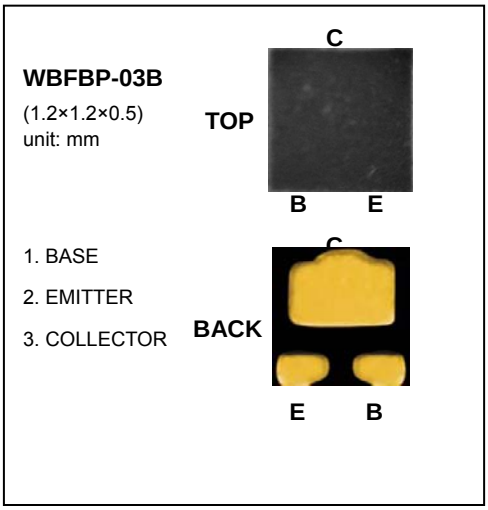
JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

WBFBP-03B Plastic-Encapsulate Transistors



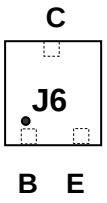
TP9014NND03 TRANSISTOR

DESCRIPTION
NPN Epitaxial Silicon Transistor

FEATURES
High h_{FE} and good linearity
Complementary to TP9015NND03

APPLICATION
Pre-Amplifier, Low Level & Low Noise
For portable equipment:(i.e. Mobile phone,MP3, MD,CD-ROM, DVD-ROM,Note book PC, etc.)

MARKING: J6



MAXIMUM RATINGS T_A=25℃ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	0.1	A
P_C	Collector Dissipation	0.15	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃

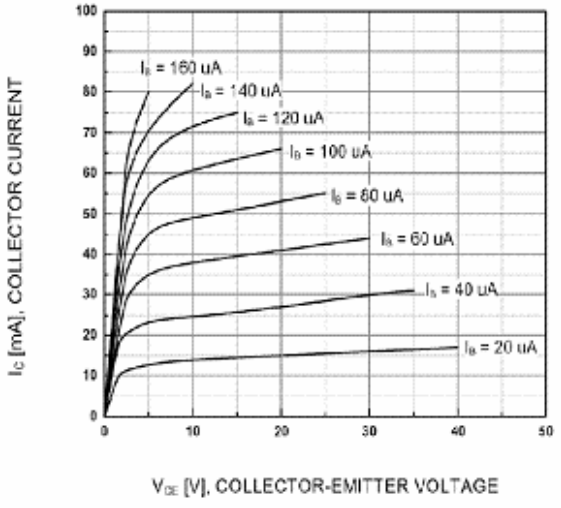
ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 100μA, I_E=0	50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= 0.1mA, I_B=0	45			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=50 V , I_E=0			0.1	μA
Collector cut-off current	I_{CEO}	V_{CE}=35V , I_B=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}= 4V , I_C=0			0.1	μA
DC current gain	h_{FE}	V_{CE}=5V, I_C= 1mA	200		1000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=100 mA, I_B= 5mA			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=100 mA, I_B= 5mA			1	V
Transition frequency	f_T	V_{CE}=5V, I_C= 10mA	150			MHz
Collector output capacitance	C_{obo}	V_{CB}=10V,I_E=0,f=1MHz			3.5	pF
Noise figure	NF	V_{CE}=5V,I_c=0.2mA,			6	dB

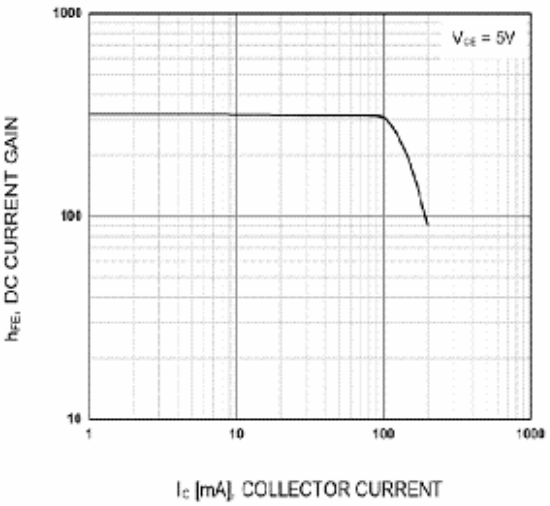
CLASSIFICATION OF h_{FE}

Rank	L	H
Range	200-450	450-1000

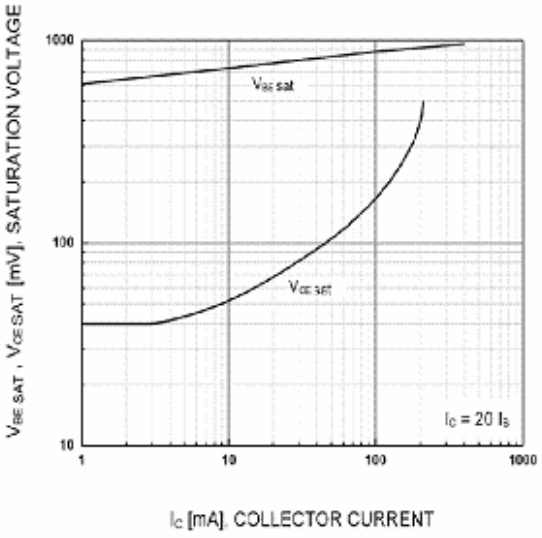
Typical Characteristics TP9014NND03



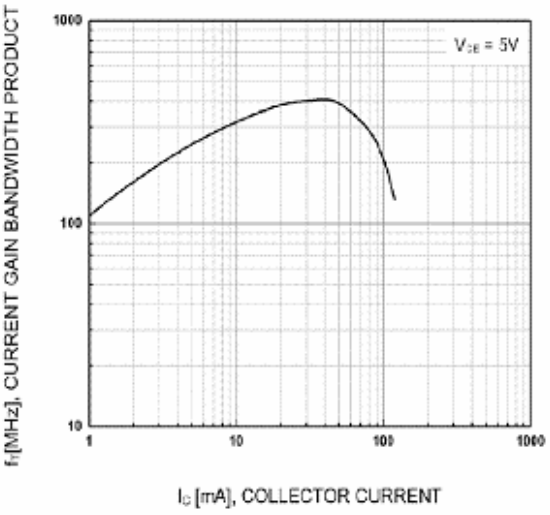
Static Characteristic



DC current Gain



Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage



Current Gain Bandwidth Product