



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

WBFBP-03A Plastic-Encapsulate Transistors

THA42TTD03 TRANSISTOR

DESCRIPTION

NPN Epitaxial Silicon Transistor

FEATURES

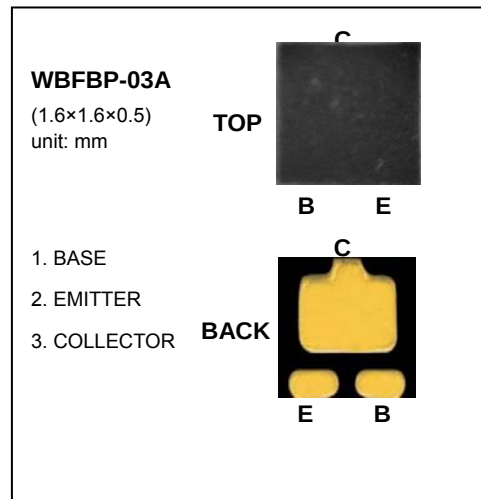
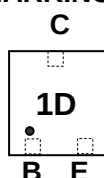
Power dissipation P_{CM} : 0.15 W ($T_{amb}=25^{\circ}C$)

APPLICATION

High Voltage Amplifier

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

MARKING:1D



MAXIMUM RATINGS $T_A=25^{\circ}C$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	310	V
V_{CEO}	Collector-Emitter Voltage	305	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	300	mA
T_J	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature	-55-150	$^{\circ}C$

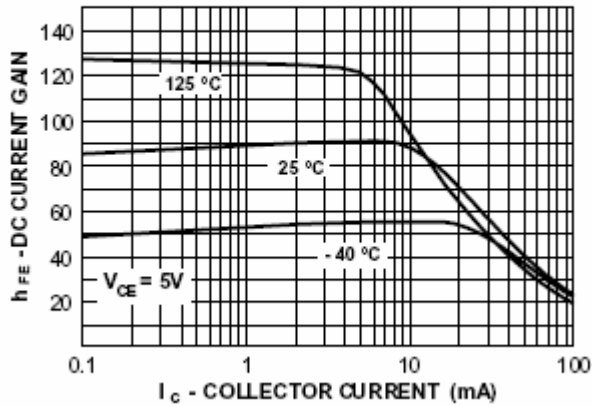
ELECTRICAL CHARACTERISTICS($T_{amb}=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	310		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	305		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	5		V
Collector cut-off current	I_{CBO}	$V_{CB}=200V, I_E=0$		0.25	μA
Collector cut-off current	I_{CEO}	$V_{CE}=200V, I_B=0$		0.25	μA
		$V_{CE}=300V, I_B=0$		5	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$		0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=10V, I_C=1mA$	60		
	$h_{FE(2)}$	$V_{CE}=10V, I_C=10mA$	100	200	
	$h_{FE(3)}$	$V_{CE}=10V, I_C=30mA$	75		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=20mA, I_B=2mA$		0.2	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=20mA, I_B=2mA$		0.9	V
Transition frequency	f_T	$V_{CE}=20V, I_C=10mA$ $f=30MHz$	50		MHz

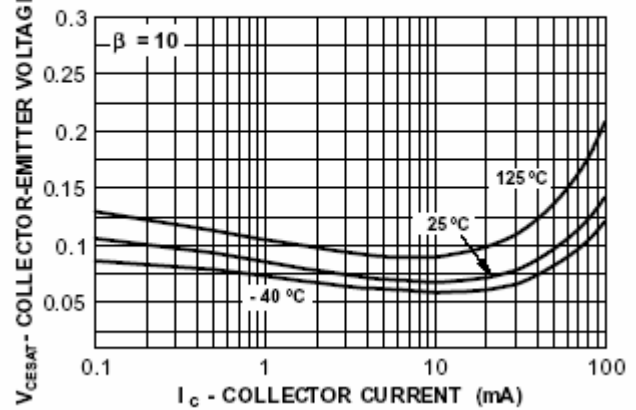
Typical Characteristics

THA42TTD03

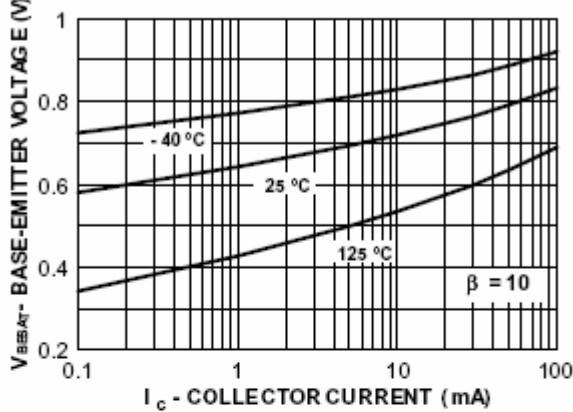
**DC Current Gain
vs Collector Current**



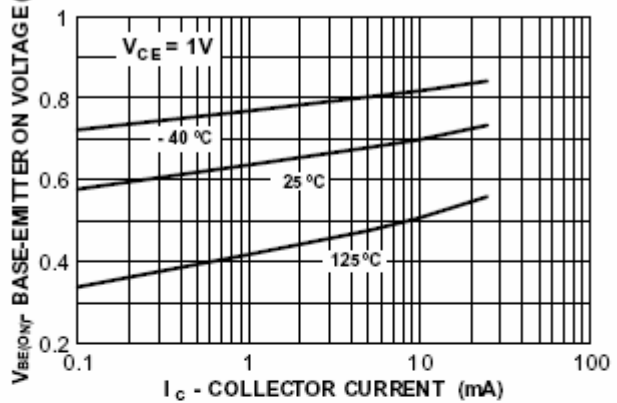
**Collector-Emitter Saturation
Voltage vs Collector Current**



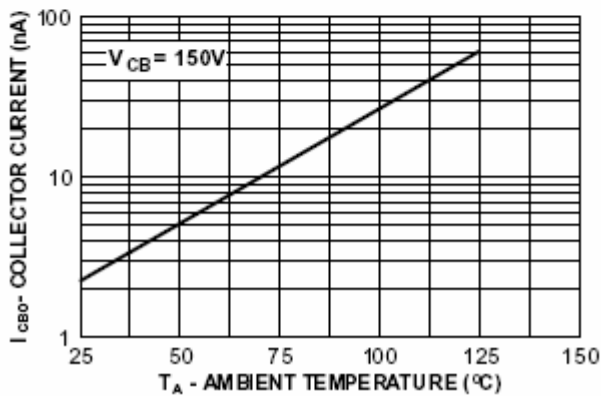
**Base-Emitter Saturation
Voltage vs Collector Current**



**Base-Emitter ON Voltage vs
Collector Current**



**Collector-Cutoff Current
vs Ambient Temperature**



**Collector-Base and Emitter-Base
Capacitance vs Reverse Bias Voltage**

