

## WBFBP-03A Plastic-Encapsulate Transistors

### THA92TTD03 TRANSISTOR

#### DESCRIPTION

PNP Epitaxial Silicon Transistor

#### FEATURES

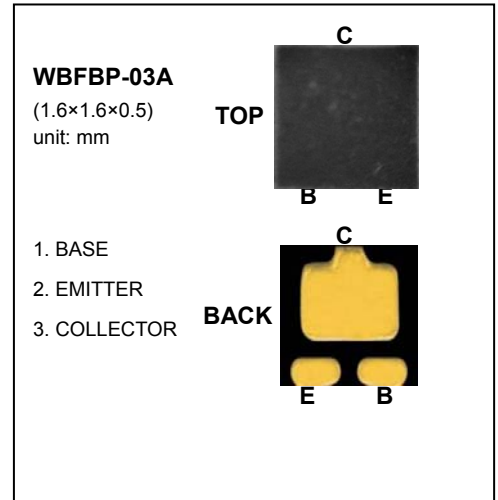
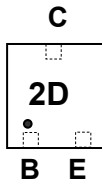
Power dissipation  $P_{CM}$  : 0.15 W ( $T_a=25^\circ\text{C}$ )

#### APPLICATION

High Voltage Amplifier

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

#### MARKING:2D



#### MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	-310	V
$V_{CEO}$	Collector-Emitter Voltage	-305	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current -Continuous	-200	mA
$I_{CM}$	Collector Current -Pulsed	-500	mA
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55-150	$^\circ\text{C}$

#### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ unless otherwise specified)

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