



MMBTA05, MMBTA06, MMBTA55, MMBTA56

NPN AND PNP HIGH VOLTAGE TRANSISTOR

VOLTAGE 60~80 Volts **POWER** 225 mWatts

SOT-23 Unit: inch (mm)

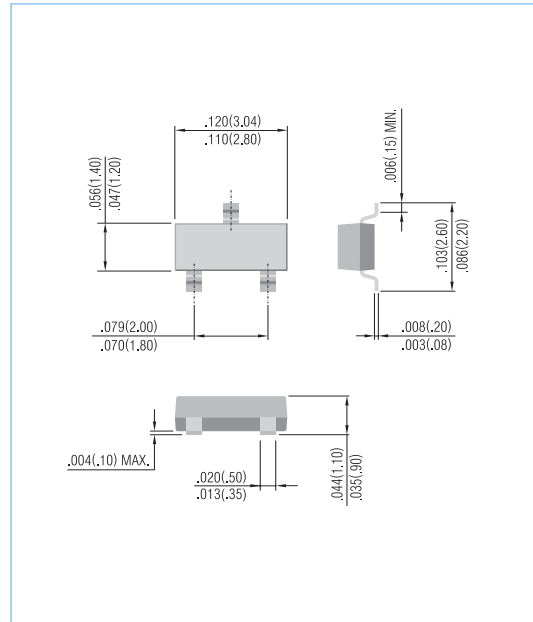
FEATURES

- NPN and PNP silicon, planar design
- Collector current $I_C = 100\text{mA}$
- In compliance with EU RoHS 2002/95/EC directives

MECHANICAL DATA

- Case: SOT-23, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.008 gram
- Marking :

MMBTA05=B05	MMBTA06=B06	MMBTA55=B55	MMBTA56=B56
-------------	-------------	-------------	-------------



MAXIMUM RATINGS

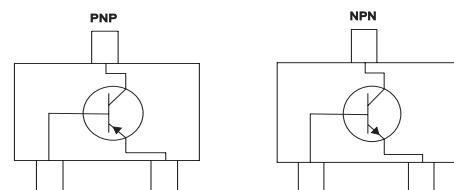
PARAMETER	SYMBOL	MMBTA05	MMBTA55	MMBTA06	MMBTA56	UNITS
Collector-Emitter Voltage	V_{CE0}	60		80		V
Collector-Base Voltage	V_{CBO}	60		80		V
Emitter-Base Voltage	V_{EBO}	4.0				V
Collector Current-Continuous	I_C	500				mA
Circuit Figure		NPN	PNP	NPN	PNP	

THERMAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	MAX	UNIT
Total Device Dissipation FR-5 Board (Note 1) $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	225 1.8	mW mW/°C
Thermal Resistance , Junction to Ambient	$R_{\theta JA}$	556	°C/W
Total Device Dissipation Alumina Substrate (Note 2) $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	300 2.4	mW mW/°C
Thermal Resistance , Junction to Ambient	$R_{\theta JA}$	417	°C
Junction and Storage Temperature	T_J, T_{STG}	-55 to 150	°C

1.FR-4=70 x 60 x 1mm.

2.Alumina=0.4 x 0.3 x 0.024 in. 99.5 alumina





MMBTA05, MMBTA06, MMBTA55, MMBTA56

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

CHARACTERISTIC	SYMBOL	MIN	MAX	UNIT
----------------	--------	-----	-----	------

OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage (Note 3) ($I_C = 1.0\text{ mA}$, $I_B = 0$)	MMBTA05, MMBTA55 MMBTA06, MMBTA56	$V_{(BR)CEO}$	60 80	- -	V
Emitter-Base Breakdown Voltage ($I_E = 100\ \mu\text{A}$, $I_C = 0$)		$V_{(BR)EBO}$	4.0	-	V
Collector Cutoff Current ($V_{CE} = 60\text{V}$, $I_B = 0$)		I_{CES}	-	0.1	μA
Collector Cutoff Current ($V_{CB} = 60\text{V}$, $I_E = 0$) ($V_{CB} = 80\text{V}$, $I_E = 0$)	MMBTA05, MMBTA55 MMBTA06, MMBTA56	I_{CBO}	- -	0.1 0.1	μA

ON CHARACTERISTICS

DC Current Gain ($I_C = 10\text{mA}$, $V_{CE} = 1.0\text{V}$) ($I_C = 100\text{mA}$, $V_{CE} = 1.0\text{V}$)		h_{FE}	100 100	- -	-
Collector-Emitter Saturation Voltage ($I_C = 100\text{mA}$, $I_B = 10\text{mA}$)		$V_{CE(sat)}$	-	0.25	V
Base-Emitter On Voltage ($I_C = 100\text{mA}$, $V_{CE} = 1.0\text{V}$)		$V_{BE(on)}$	-	1.2	V

SMALL-SIGNAL CHARACTERISTICS

Current-Gain-Bandwidth Product (Note 4) ($I_C = 10\text{mA}$, $V_{CE} = 2.0\text{V}$, $f = 100\text{MHz}$)		f_T	100	-	MHz
---	--	-------	-----	---	-----



MMBTA05, MMBTA06, MMBTA55, MMBTA56

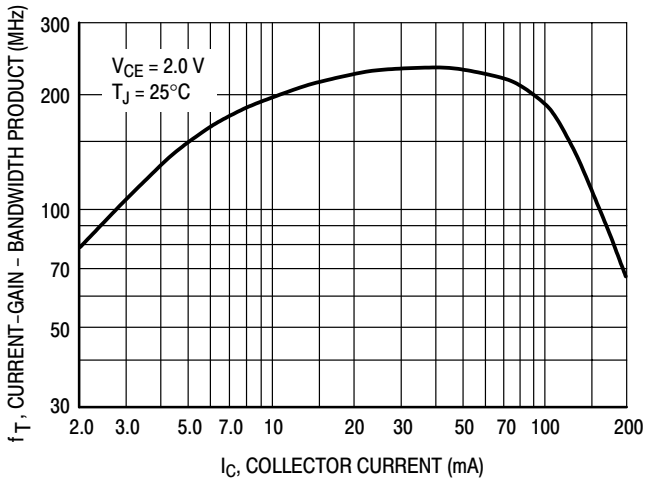


Figure 2. Current-Gain — Bandwidth Product

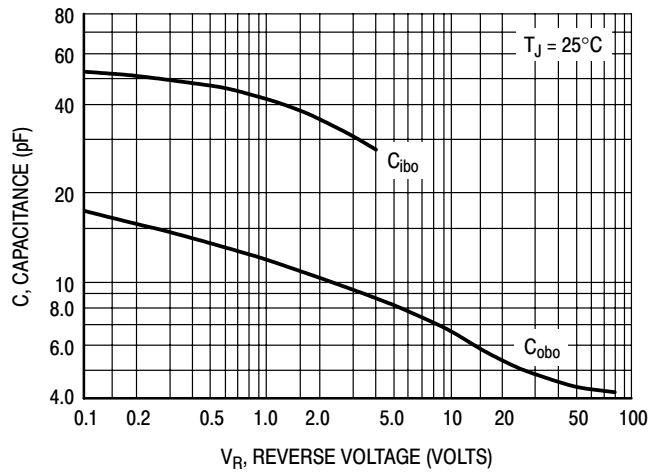


Figure 3. Capacitance

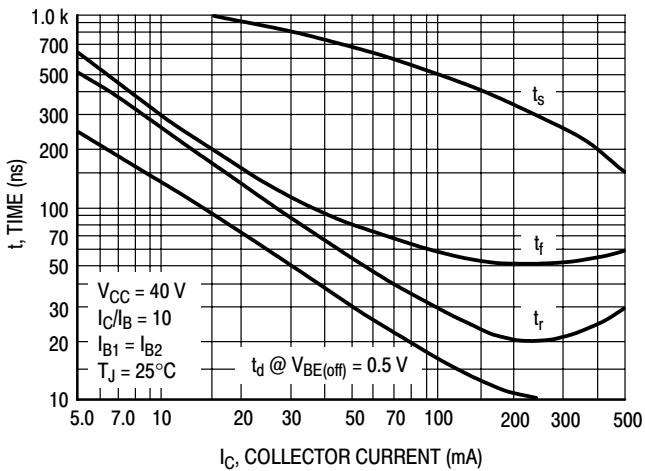


Figure 4. Switching Time

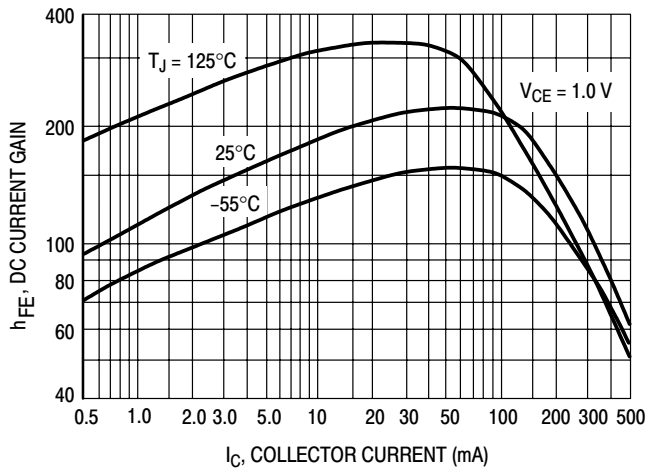


Figure 5. DC Current Gain

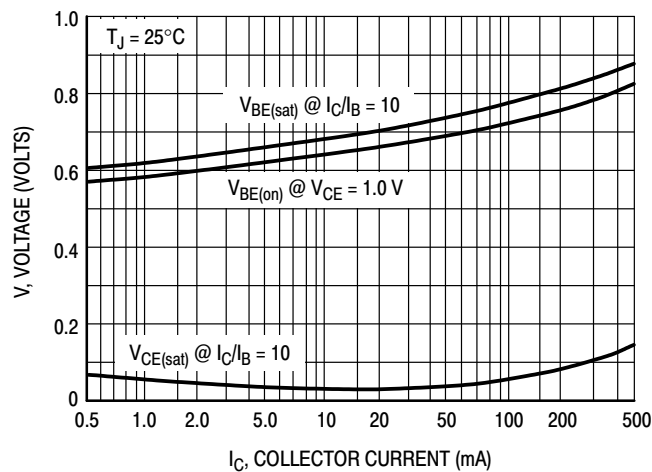


Figure 6. "ON" Voltages



MMBTA05, MMBTA06, MMBTA55, MMBTA56

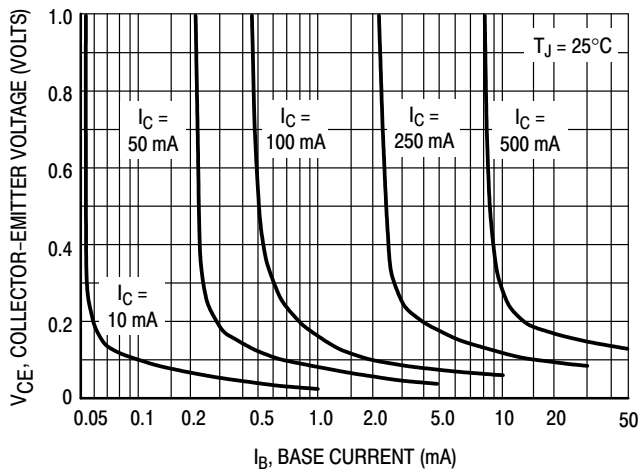


Figure 7. Collector Saturation Region

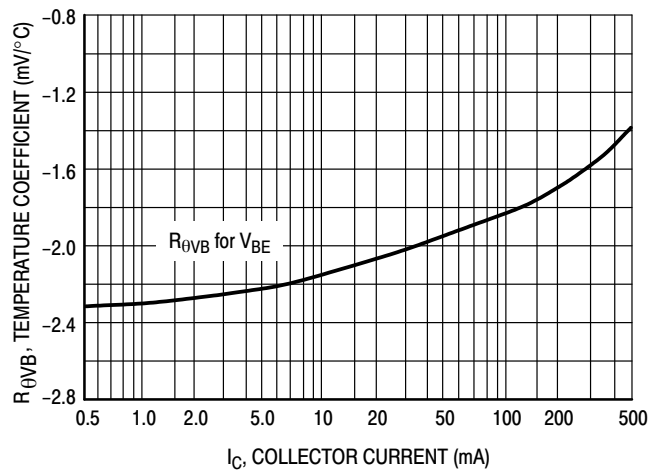
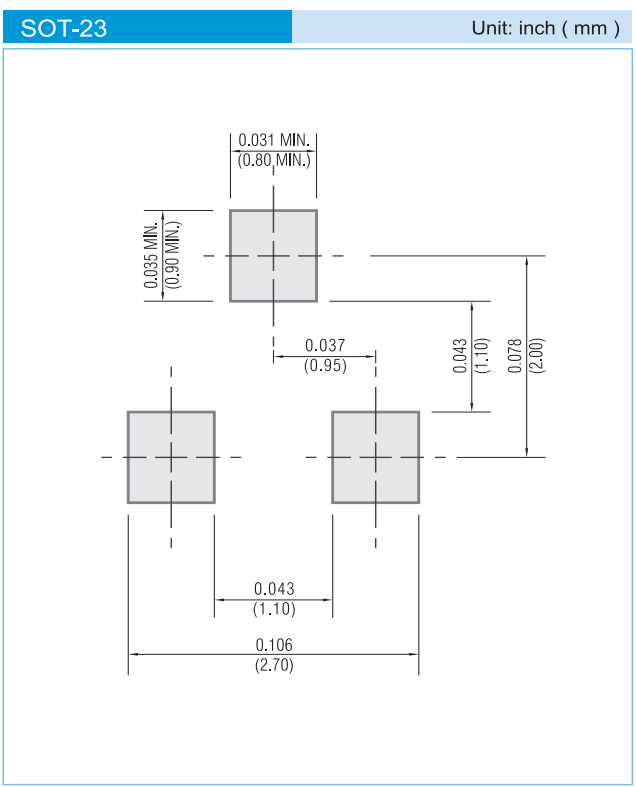


Figure 8. Base-Emitter Temperature Coefficient



MMBTA05, MMBTA06, MMBTA55, MMBTA56

MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information
 - T/R - 12K per 13" plastic Reel
 - T/R - 3K per 7" plastic Reel

LEGAL STATEMENT

Copyright PanJit International, Inc 2009
 The information presented in this document is believed to be accurate and reliable. The specifications and information herein are subject to change without notice. Pan Jit makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose. Pan Jit products are not authorized for use in life support devices or systems. Pan Jit does not convey any license under its patent rights or rights of others.