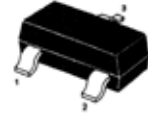


**FUKUCOM COMPANY LTD.****福 靈 有 限 公 司**FLAT P, 3/F., EVEREST INDUSTRIAL CENTRE, 396 KWUN TONG ROAD,
KWUN TONG, KOWLOON, HONG KONG.

TEL: 852-2790 0314 FAX: 852-2790 0206

MMBT4403LT1**General Purpose Transistor**

- Collector Dissipation: $P_c=250\text{mW}$
- Collector-Emitter Voltage : $V_{CE0} = -40\text{V}$

1. Base 2. Emitter 3. Collector
SOT-23 Plastic Package**PNP Epitaxial Silicon Transistor**Absolute Maximum Ratings $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	600	mA
P_C	Collector Dissipation	250	mW
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 noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C=100\ \mu\text{A}, I_E=0$	-40		V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C=1\text{mA}, I_B=0$	-40		V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E=-100\ \mu\text{A}, I_C=0$	-5		V
I_{CBO}	Collector Cut-off Current	$V_{CB}=-40\text{V}, I_E=0$		-50	$\eta\ \text{A}$
I_{EBO}	Emitter Cut-off Current	$V_{EB}=-5\text{V}, I_C=0$		-50	$\eta\ \text{A}$
h_{FE}	DC Current Gain	$V_{CE}=-1\text{V}, I_C=-100\text{mA}$ $V_{CE}=-1\text{V}, I_C=-1\text{mA}$ $V_{CE}=-1\text{V}, I_C=-10\text{mA}$ $V_{CE}=-1\text{V}, I_C=-150\text{mA}$ $V_{CE}=-2\text{V}, I_C=-500\text{mA}$	30 60 100 100 20	300	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=-500\text{mA}, I_B=-50\text{mA}$		-0.75	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=-500\text{mA}, I_B=-50\text{mA}$		-1.3	V
f_T	Current Gain-Bandwidth Product	$V_{CE}=-10\text{V}, I_C=-20\text{mA},$ $f=100\text{MHz}$	200		MHz

* Total Device Dissipation : $FR=1 \times 0.75 \times 0.062$ in Board, Derate 25°C # Pulse Test : Pulse Width $\leq 300\ \mu\text{s}$, Duty cycle $\leq 2\%$

Marking: MMBT4403LT1 = 2T / 2TH



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MMBT4403T1

SWITCHING TIME EQUIVALENT TEST CIRCUITS

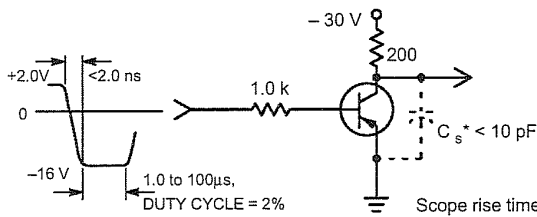


Figure 1. Turn-On Time

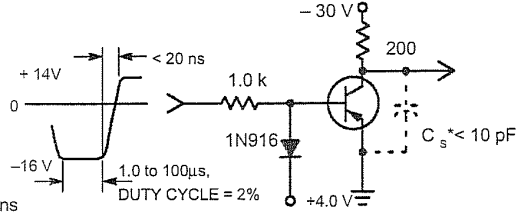


Figure 2. Turn-Off Time

SMALL-SIGNAL CHARACTERISTICS

NOISE FIGURE

$V_{CE} = -10 \text{ Vdc}$, $T_A = 25^\circ\text{C}$

Bandwidth = 1.0 Hz

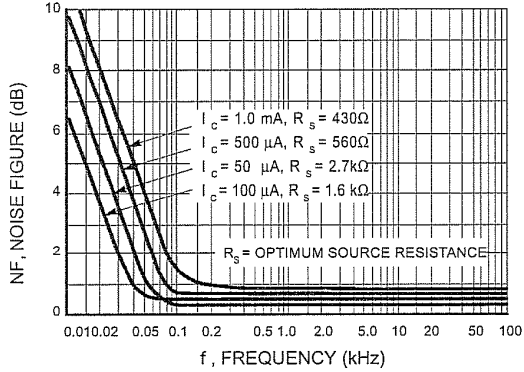


Figure 3. Frequency Effects

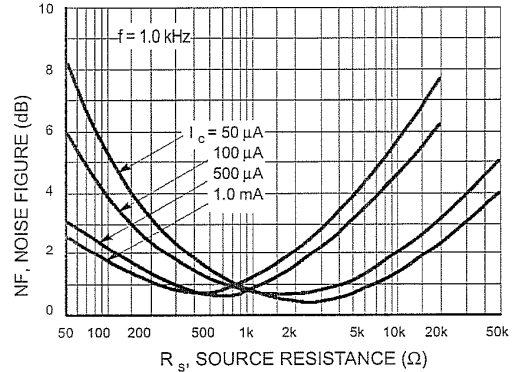


Figure 4. Source Resistance Effects



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TYPICAL TRANSIENT CHARACTERISTICS

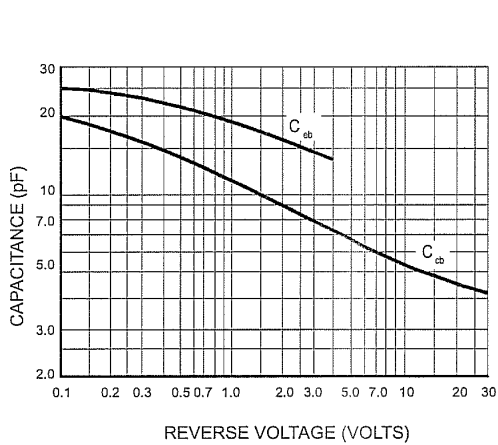


Figure 5. Capacitance

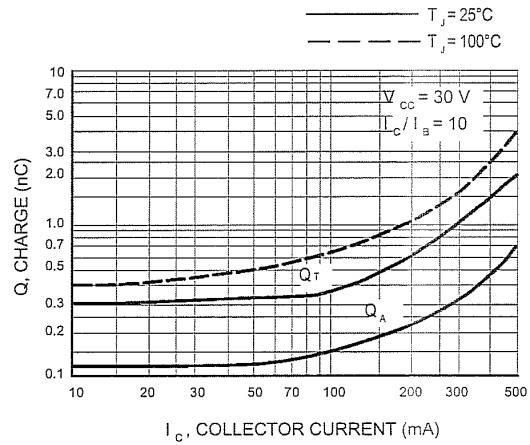


Figure 6. Charge Data

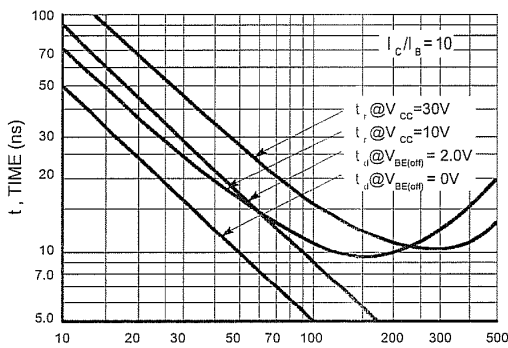


Figure 7. Turn-On Time

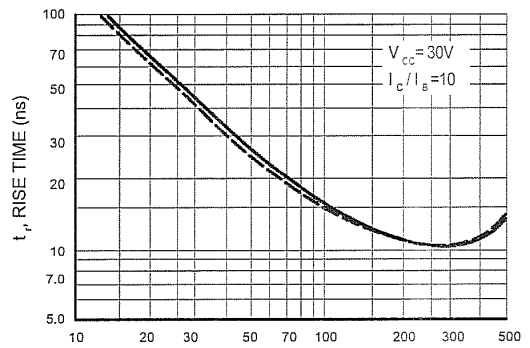


Figure 8. Rise Time

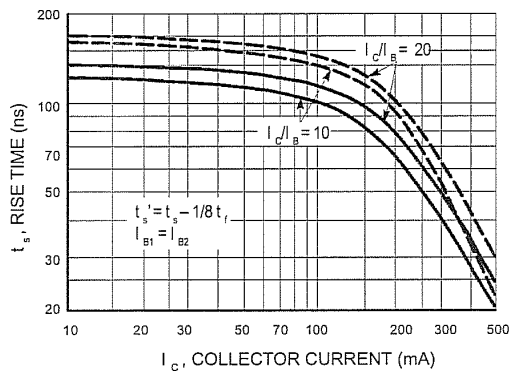


Figure 9. Storage Time



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STATIC CHARACTERISTICS

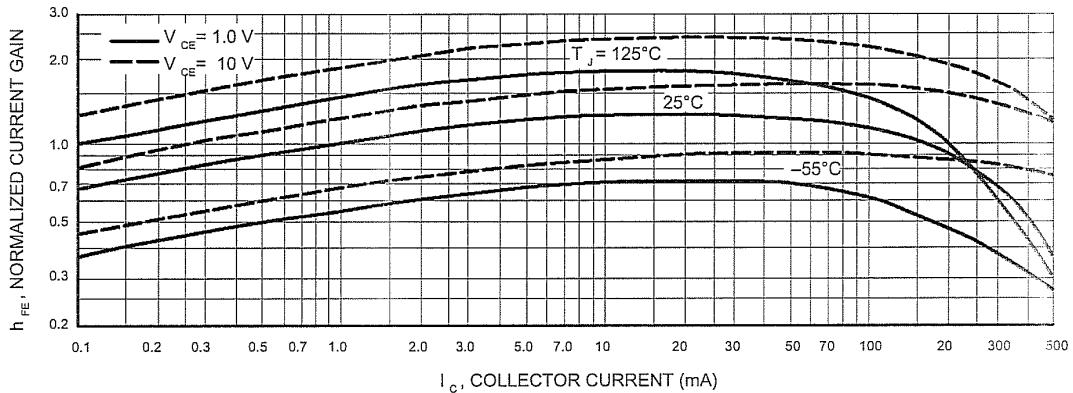


Figure 10. DC Current Gain

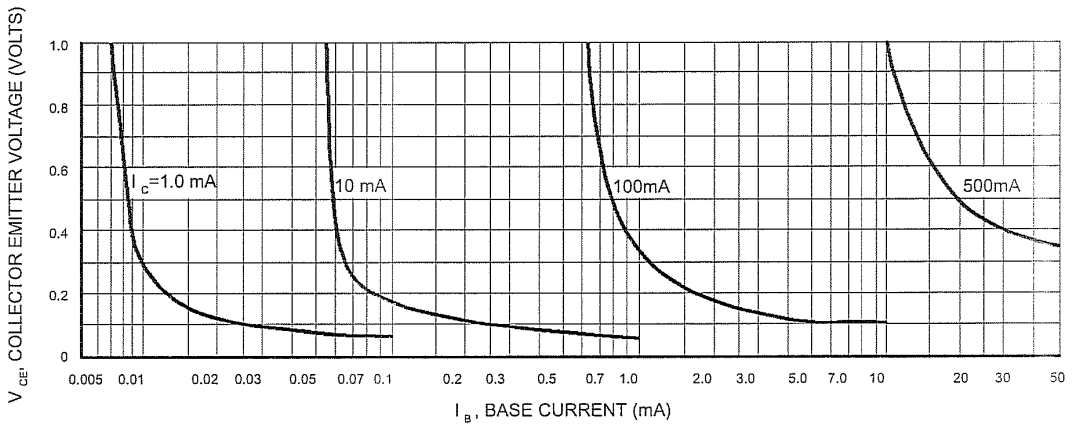


Figure 11. Collector Saturation Region

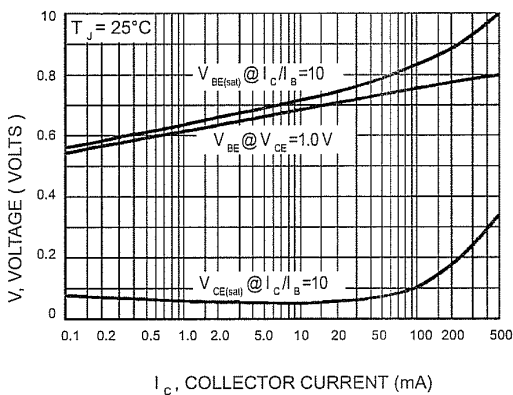


Figure 12. "On" Voltages

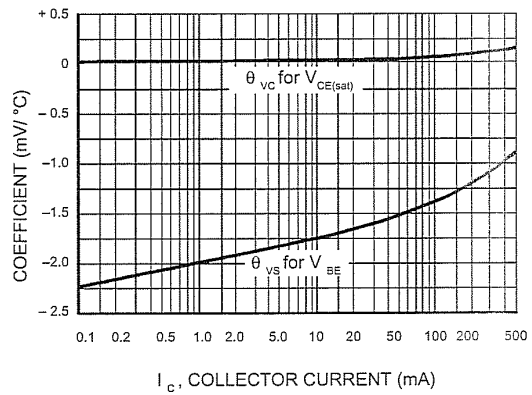


Figure 13. Temperature Coefficients