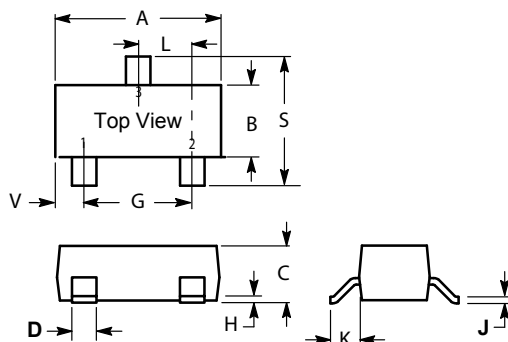
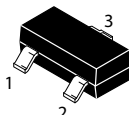
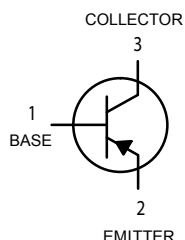


RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free



SOT-23		
Dim	Min	Max
A	2.800	3.040
B	1.200	1.400
C	0.890	1.110
D	0.370	0.500
G	1.780	2.040
H	0.013	0.100
J	0.085	0.177
K	0.450	0.600
L	0.890	1.020
S	2.100	2.500
V	0.450	0.600
All Dimension in mm		

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 -Continuous	-0.6	A
P_C	Collector Dissipation	0.3	W
T_J, T_{stg}	Junction and Storage Temperature	-55-150	$^\circ\text{C}$

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

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\ \mu\text{A}$, $I_E=0$	-40		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}$, $I_B=0$	-40		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}	$V_{CB}=-35\text{V}$, $I_E=0$		-0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE}=-35\text{V}$, $I_B=0$		-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-4\text{V}$, $I_C=0$		-0.1	μA
DC current gain	h_{FE}	$V_{CE}=-2\text{V}$, $I_C=-150\text{mA}$	100	300	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-150\text{mA}$, $I_B=-15\text{mA}$		-0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=-150\text{mA}$, $I_B=-15\text{mA}$		-0.95	V
Transition frequency	f_T	$V_{CE}=-10\text{V}$, $I_C=-20\text{mA}$ $f=100\text{MHz}$	200		MHz

MARKING: 2T

TRANSIENT CHARACTERISTICS

— 25°C - - - 100°C

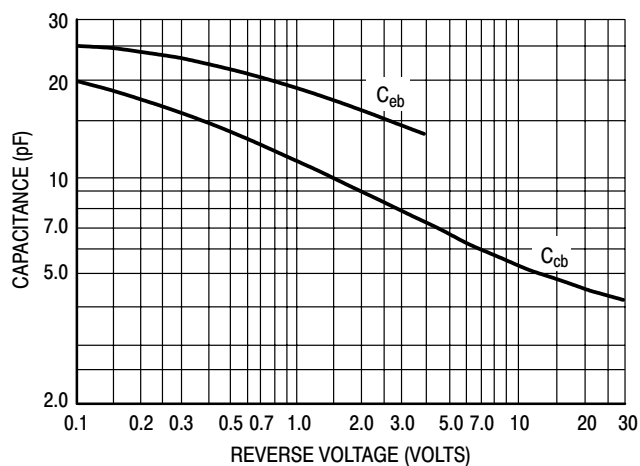


Figure 3. Capacitances

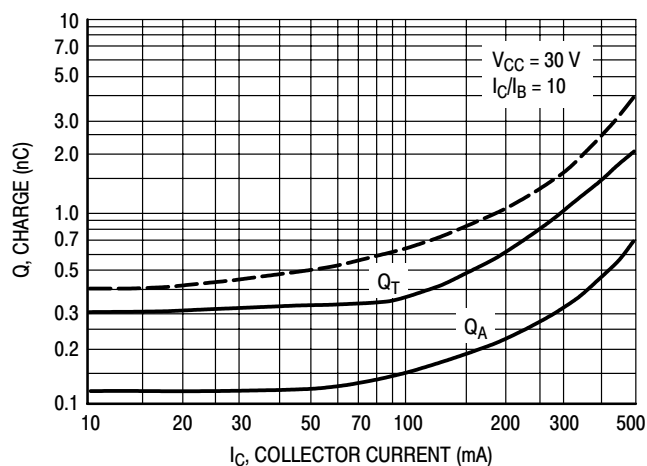


Figure 4. Charge Data

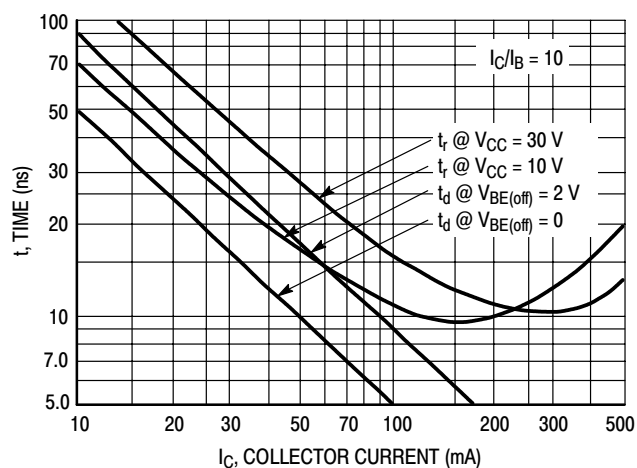


Figure 5. Turn-On Time

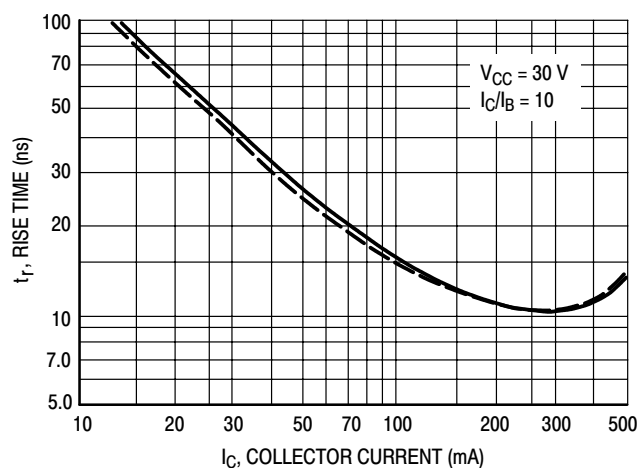


Figure 6. Rise Time

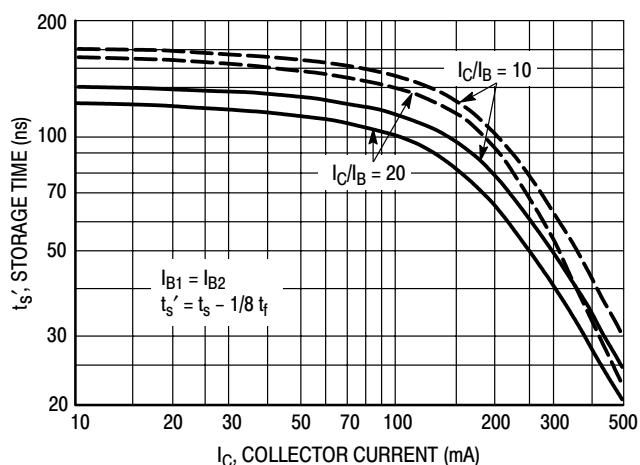


Figure 7. Storage Time

SMALL-SIGNAL CHARACTERISTICS NOISE FIGURE

$V_{CE} = -10 \text{ Vdc}$, $T_A = 25^\circ\text{C}$; Bandwidth = 1.0 Hz

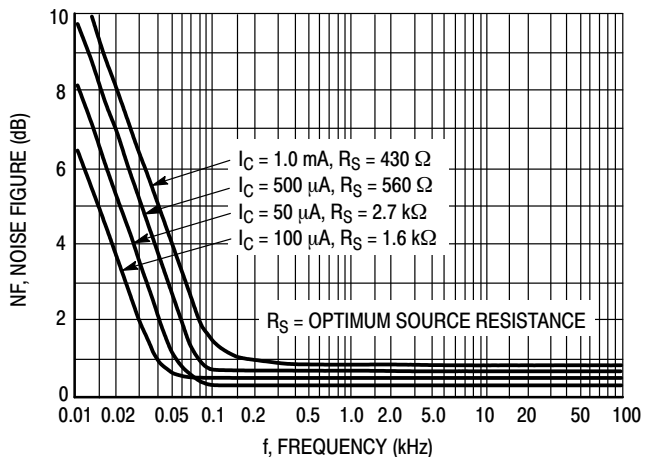


Figure 8. Frequency Effects

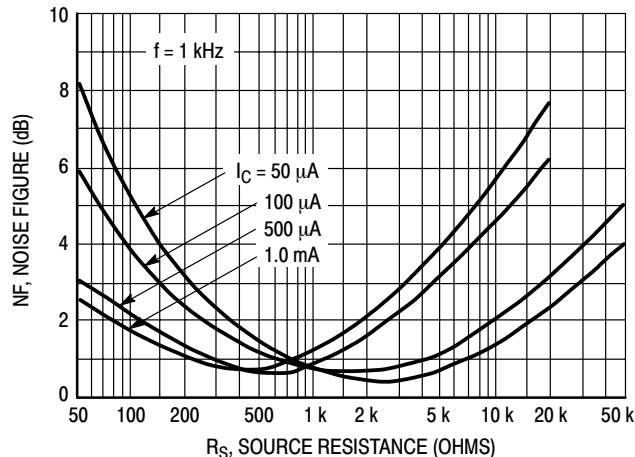


Figure 9. Source Resistance Effects

h PARAMETERS

$V_{CE} = 10 \text{ Vdc}$, $f = 1.0 \text{ kHz}$, $T_A = 25^\circ\text{C}$

This group of graphs illustrates the relationship between h_{fe} and other h° parameters for this series of transistors. To obtain these curves, a high-gain and a low-gain unit were selected from the MMBT4403 lines, and the same units were used to develop the correspondingly numbered curves on each graph.

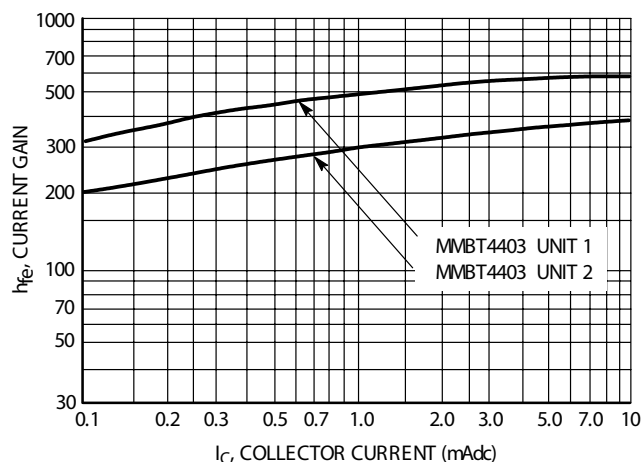


Figure 10. Current Gain

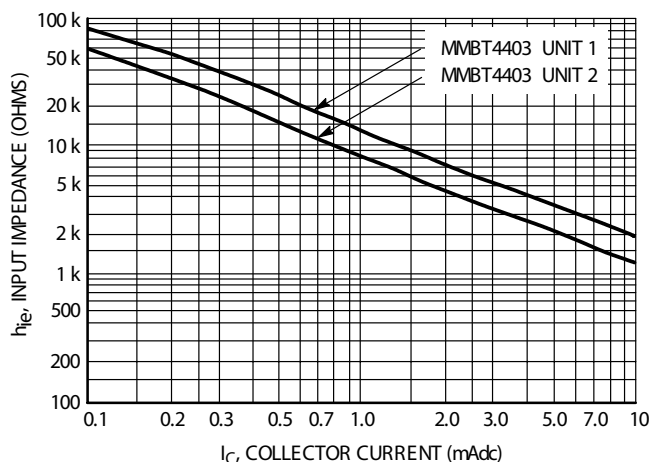


Figure 11. Input Impedance

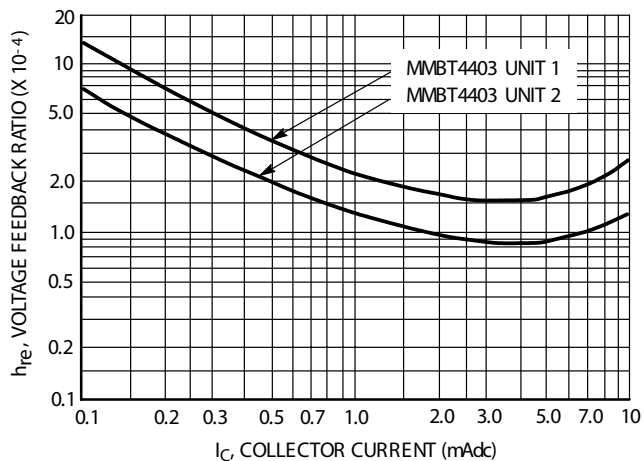


Figure 12. Voltage Feedback Ratio

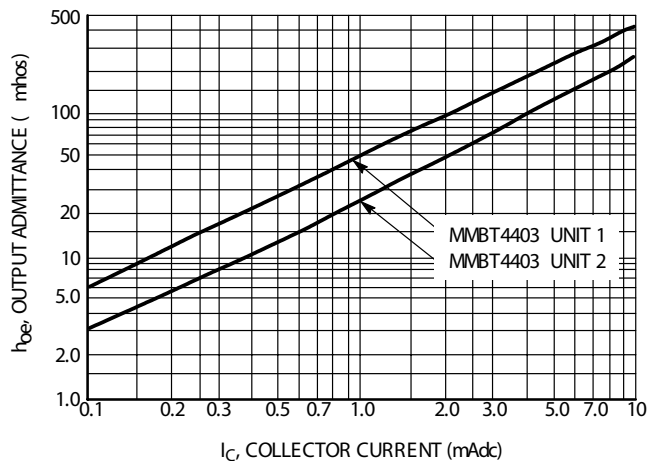


Figure 13. Output Admittance

STATIC CHARACTERISTICS

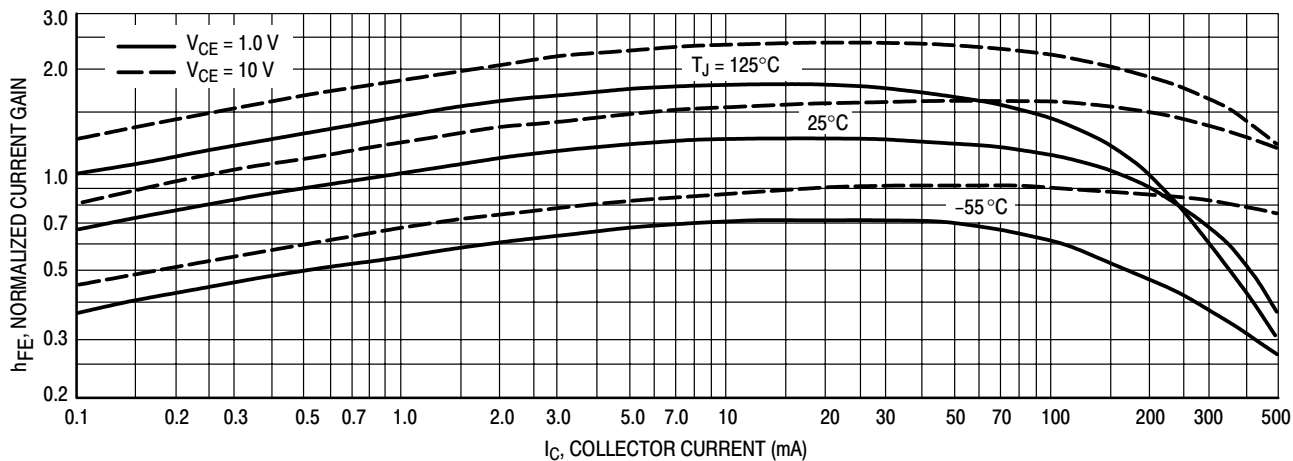


Figure 14. DC Current Gain

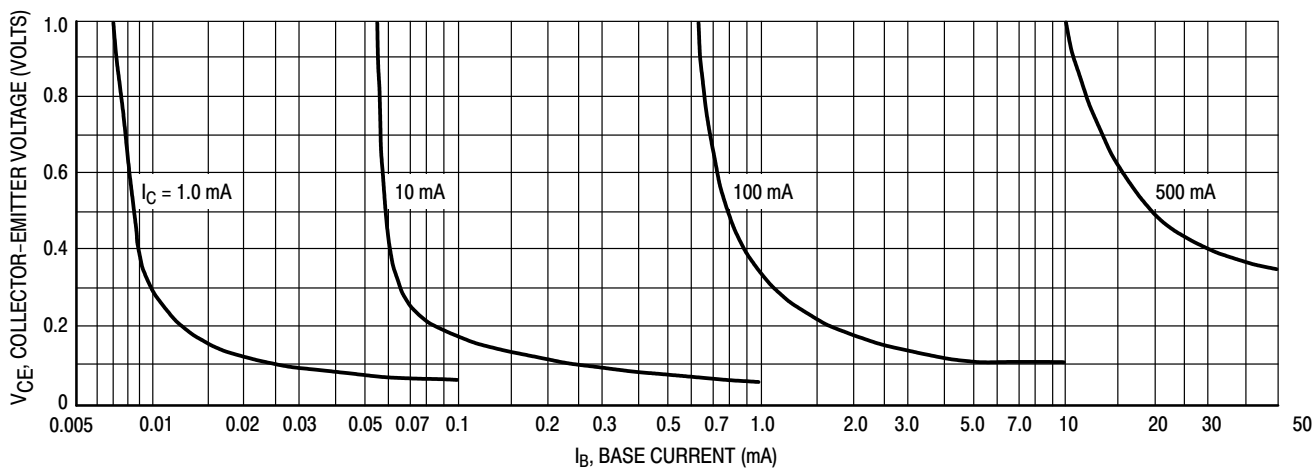


Figure 15. Collector Saturation Region

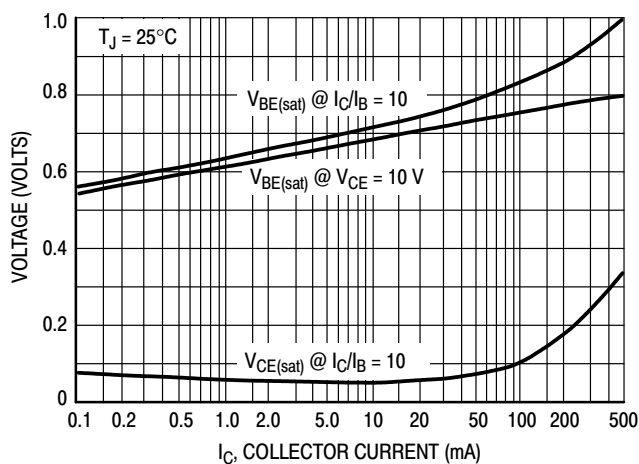


Figure 16. "On" Voltages

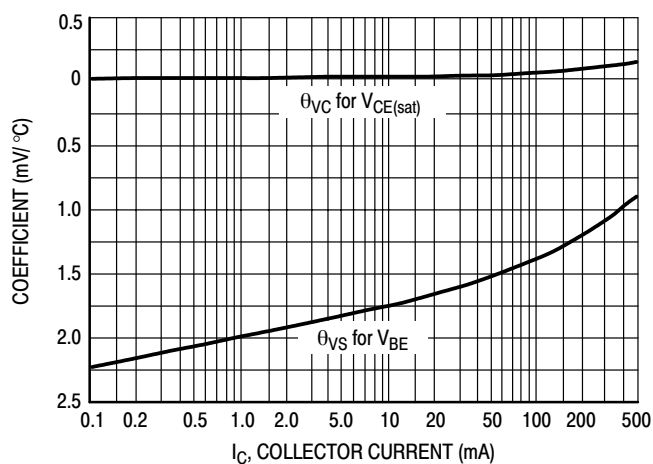


Figure 17. Temperature Coefficients