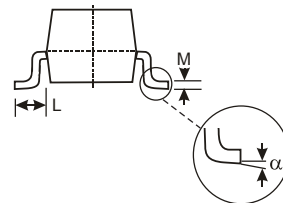
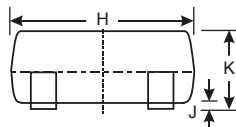
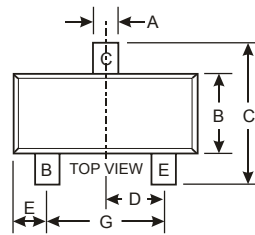
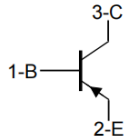
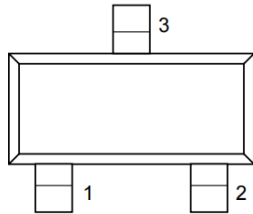


Features

- Epitaxial Planar Die Construction.
- Complementary NPN Type Available(MMBT4401).
- Ideal for Medium Power Amplification and Switching.
- Marking Code:2T



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°
All Dimensions in mm		

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	-40	V
Collector Emitter Voltage	V_{CEO}	-40	V
Emitter Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	600	mA
Power Dissipation	P_d	300	mW
Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C/W}$
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{Stg}	- 55 to + 150	$^\circ\text{C}$

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Parameter	mbol	Test Conditions	Min	Typ	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_{CEX}	$V_{CE} = -35\text{V}, V_{BE} = 0.4\text{V}$			-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4\text{V}, I_C = 0$			-0.1	μA
DC current gain	h_{FE1}	$V_{CE} = -1\text{V}, I_C = -0.1\text{mA}$	30			
	h_{FE2}	$V_{CE} = -1\text{V}, I_C = -1\text{mA}$	60			
	h_{FE3}	$V_{CE} = -1\text{V}, I_C = -10\text{mA}$	100			
	h_{FE4}	$V_{CE} = -2\text{V}, I_C = -150\text{mA}$	100		300	
	h_{FE5}	$V_{CE} = -2\text{V}, I_C = -500\text{mA}$	20			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -150\text{mA}, I_B = -15\text{mA}$			-0.4	V
		$I_C = -500\text{mA}, I_B = -50\text{mA}$			-0.75	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -150\text{mA}, I_B = -15\text{mA}$			-0.95	V
		$I_C = -500\text{mA}, I_B = -50\text{mA}$			-1.3	V
Transition frequency	f_T	$V_{CE} = -10\text{V}, I_C = -20\text{mA}, f = 100\text{MHz}$	200			MHz
Delay time	t_d	$V_{CC} = -30\text{V}, V_{BE(off)} = -0.5\text{V}$			15	ns
Rise time	t_r	$I_C = -150\text{mA}, I_B = -15\text{mA}$			20	ns
Storage time	t_s	$V_{CC} = -30\text{V}, I_C = -150\text{mA}$			225	ns
Fall time	t_f	$I_{B1} = I_{B2} = -15\text{mA}$			60	ns

TYPICAL TRANSIENT CHARACTERISTICS

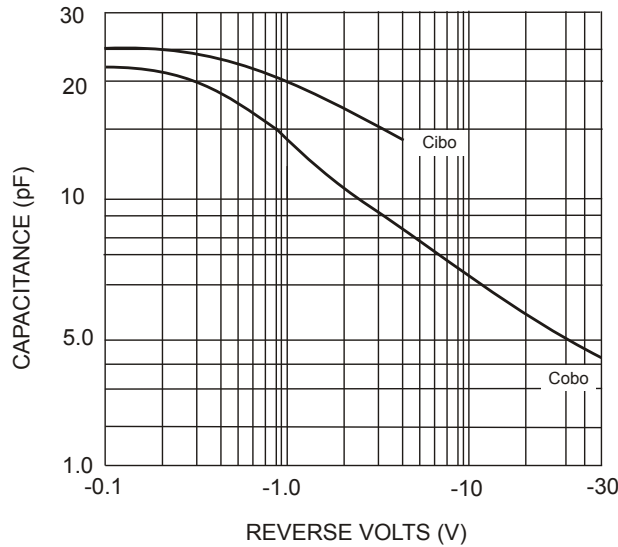


Fig. 1 Typical Capacitance

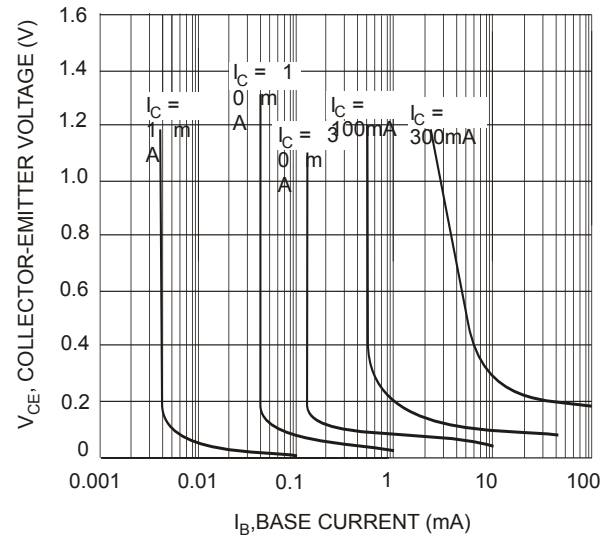


Fig. 2 Typical Collector Saturation Region

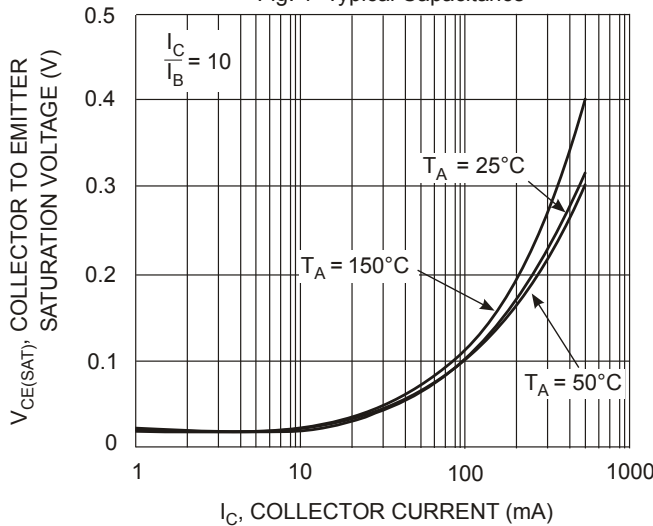


Fig. 3 Collector Emitter Saturation Voltage vs. Collector Current

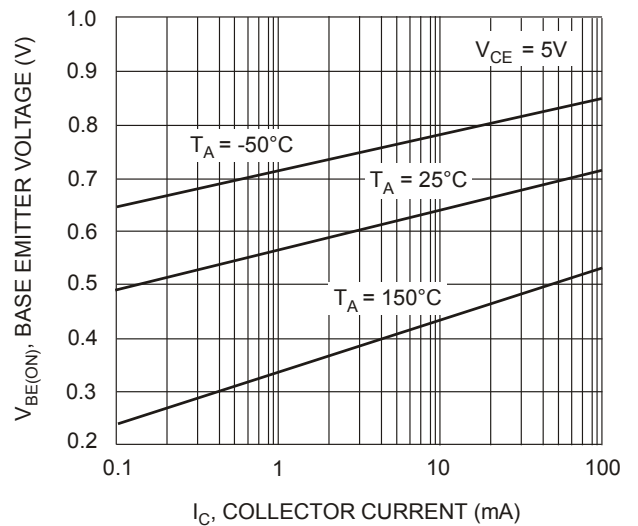


Fig. 4 Base-Emitter Voltage vs. Collector Current

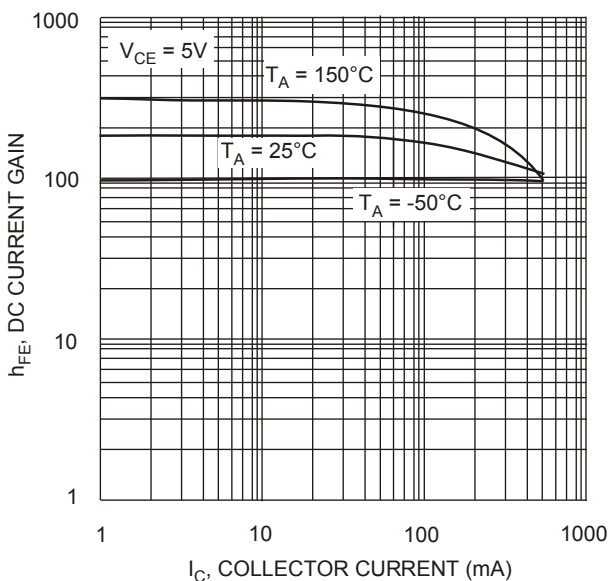


Fig. 5 DC Current Gain vs. Collector Current

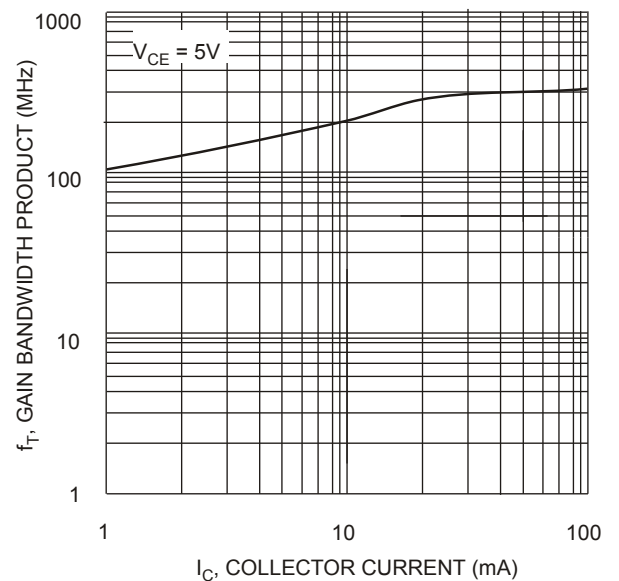


Fig. 6 Gain Bandwidth Product vs. Collector Current