

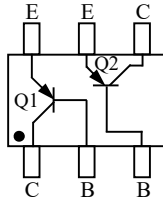
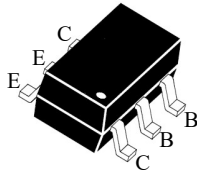


MMBT5401D1H

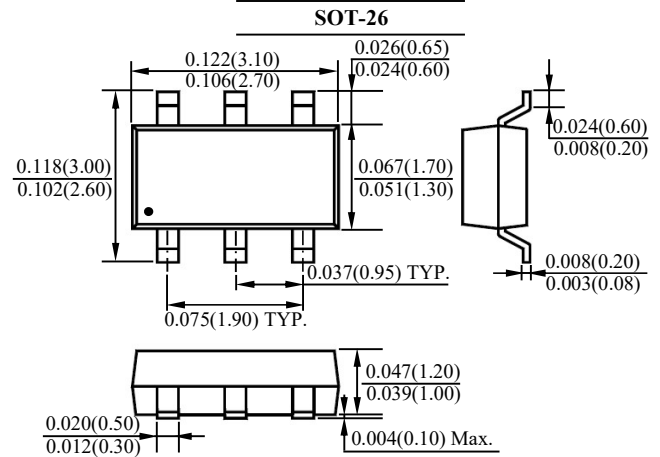
DUAL PNP TRANSISTORS

FEATURES

· Suffix "H" indicates Halogen-free parts, ex. MMBT5401D1H.



B	Base
C	Collector
E	Emitter



Dimensions in inch and (millimeter)

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	-160	V
Collector Emitter Voltage	V_{CEO}	-150	V
Emitter Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	200	mA
Power Dissipation (Note 1, 2)	P_D	300	mW
Thermal Resistance from Junction to Ambient (Note 1)	$R_{\theta JA}$	417	$^\circ\text{C}/\text{W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Note:

1. Device mounted on minimum recommended pad layout with 1oz copper that is on a single-sided 1.6mm FR-4 PCB; The device is measured under still air conditions whilst operating in a steady-state.
2. Maximum combined dissipation.



MMBT5401D1H

DUAL PNP TRANSISTORS

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

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain	$V_{CE} = -5\text{V}, I_C = -1\text{mA}$	h_{FE}	50	-	240	-
	$V_{CE} = -5\text{V}, I_C = -10\text{mA}$		60	-	240	
	$V_{CE} = -5\text{V}, I_C = -50\text{mA}$		50	-	240	
Collector Base Cutoff Current	$V_{CB} = -120\text{V}$	I_{CBO}	-	-	-50	nA
Emitter Base Cutoff Current	$V_{EB} = -3\text{V}$	I_{EBO}	-	-	-50	nA
Collector Base Breakdown Voltage	$I_C = -100\mu\text{A}$	$V_{(BR)CBO}$	-160	-	-	V
Collector Emitter Breakdown Voltage	$I_C = -1\text{mA}$	$V_{(BR)CEO}$	-150	-	-	V
Emitter Base Breakdown Voltage	$I_E = -10\mu\text{A}$	$V_{(BR)EBO}$	-5	-	-	V
Collector Emitter Saturation Voltage	$I_C = -10\text{mA}, I_B = -1\text{mA}$	$V_{CE(sat)}$	-	-	-0.2	V
	$I_C = -50\text{mA}, I_B = -5\text{mA}$		-	-	-0.5	
Base Emitter Saturation Voltage	$I_C = -10\text{mA}, I_B = -1\text{mA}$	$V_{BE(sat)}$	-	-	-1	V
	$I_C = -50\text{mA}, I_B = -5\text{mA}$		-	-	-1	
Transition Frequency	$V_{CE} = -10\text{V}, I_C = -10\text{mA}, f = 100\text{MHz}$	f_T	100	-	300	MHz
Collector Output Capacitance	$V_{CB} = -10\text{V}, f = 1\text{MHz}$	C_{obo}	-	-	6	pF



MMBT5401D1H

DUAL PNP TRANSISTORS

RATINGS AND CHARACTERISTIC CURVES

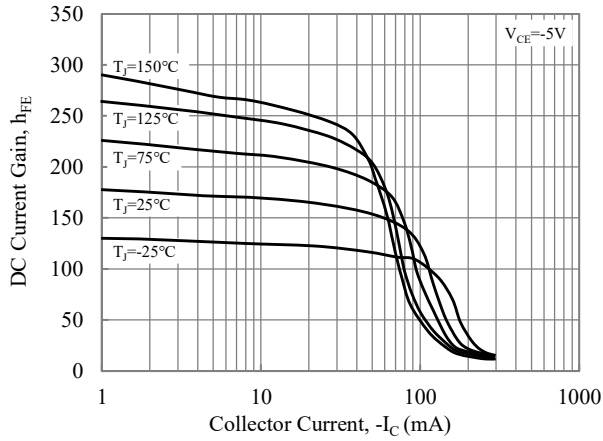


Fig. 1-Current Gain vs. Collector Current

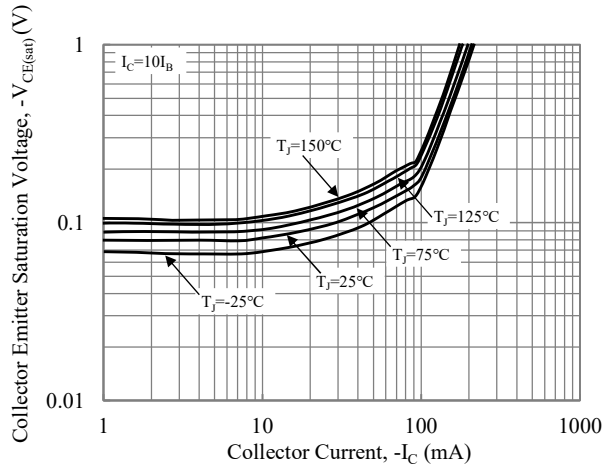


Fig. 2-Collector Emitter Saturation Voltage vs. Collector Current

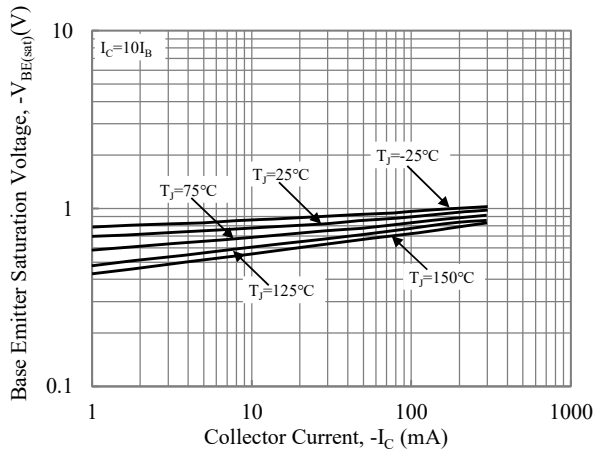


Fig. 3-Base Emitter Saturation Voltage vs. Collector Current

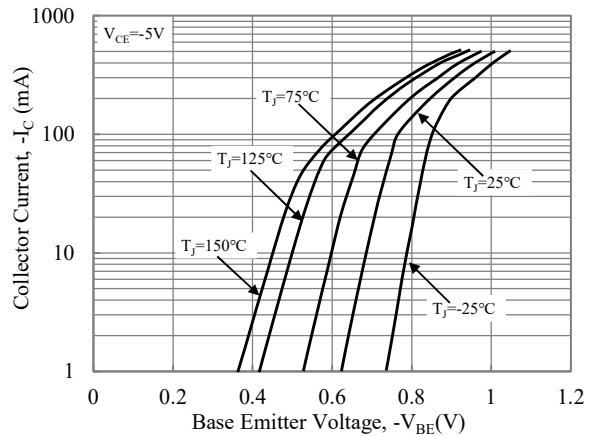


Fig. 4-Base Emitter Voltage vs. Collector Current

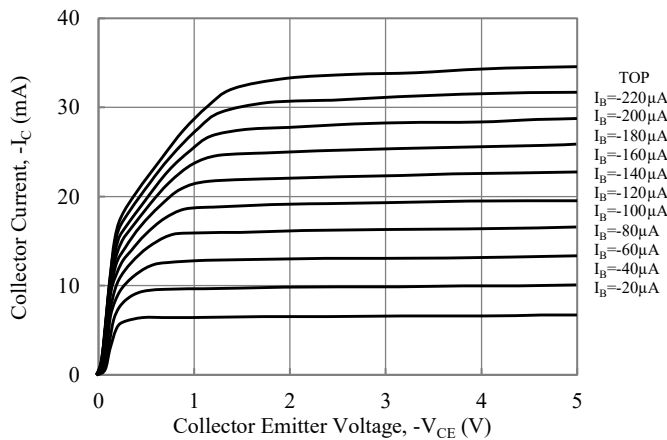


Fig. 5-Output Characteristics Curve

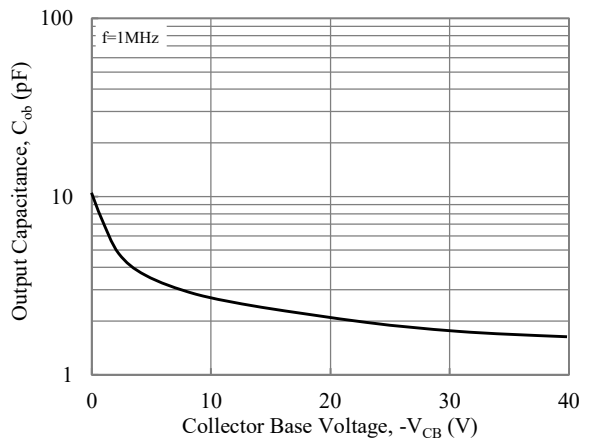


Fig. 6-Output Capacitance

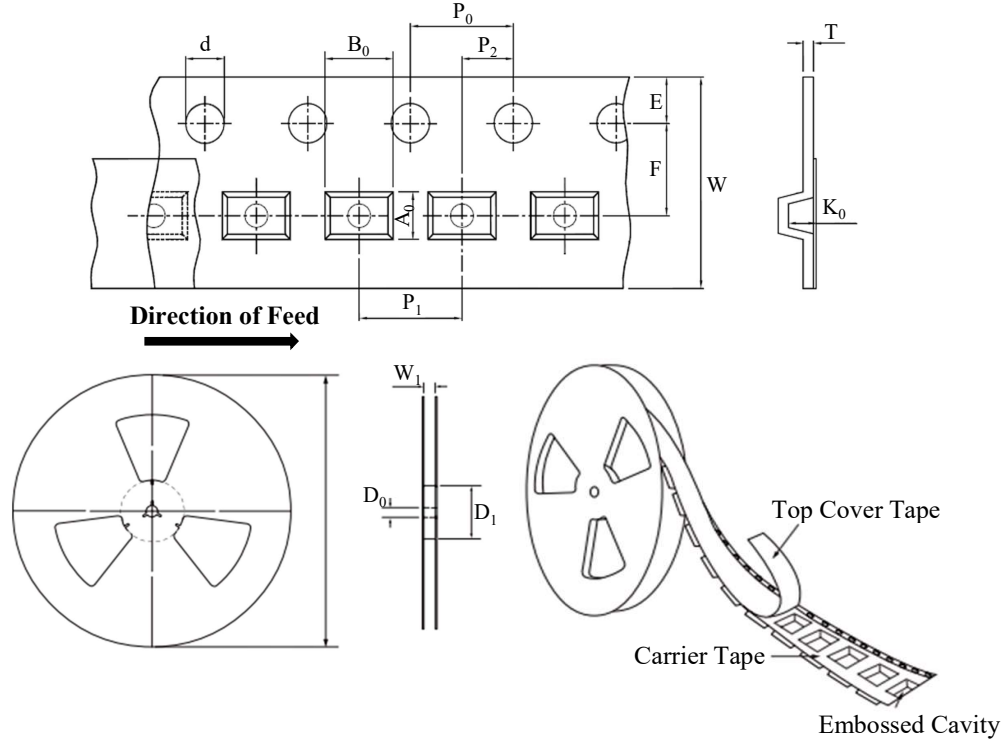
TOP
 $I_B = 220\mu A$
 $I_B = 200\mu A$
 $I_B = 180\mu A$
 $I_B = 160\mu A$
 $I_B = 140\mu A$
 $I_B = 120\mu A$
 $I_B = 100\mu A$
 $I_B = 80\mu A$
 $I_B = 60\mu A$
 $I_B = 40\mu A$
 $I_B = 20\mu A$



MMBT5401D1H

DUAL PNP TRANSISTORS

TAPE & REEL SPECIFICATION



Item	Symbol	SOT-26
Carrier width	A_0	*
Carrier length	B_0	
Carrier depth	K_0	
Sprocket hole	d	1.50 ± 0.10
Reel outside diameter	D	178.00 ± 2.00
Feed hole width	D_0	13.00 ± 0.50
Reel inner diameter	D_1	MIN. 50.00
Sprocket hole position	E	1.75 ± 0.10
Punch hole position	F	3.50 ± 0.10
Sprocket hole pitch	P_0	4.00 ± 0.10
Punch hole pitch	P_1	4.00 ± 0.10
Embossment center	P_2	2.00 ± 0.10
Overall tape thickness	T	0.60 ± 0.10
Tape width	W	8.00 ± 0.30
Reel width	W_1	MAX. 10.00

Note *: A_0 , B_0 , and K_0 are determined by component size. The clearance between the components and the cavity must be within 0.05 mm min. to 0.5 mm max.

ORDER INFORMATION

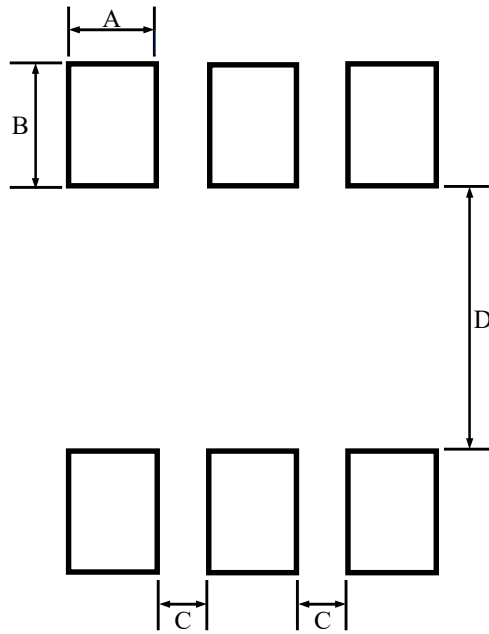
Part Number	Marking Code	Reel Size	Quantity
MMBT5401D1H	SE	7"	3,000



MMBT5401D1H

DUAL PNP TRANSISTORS

SUGGESTED SOLDER PAD LAYOUT



Unit :mm

PACKAGE	A	B	C	D
SOT-26	0.70	1.00	0.25	1.40