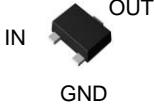


Parameter	Value
V_{CC}	30V
$I_C(\text{MAX.})$	200mA
R_1	2.2k Ω
R_2	10k Ω

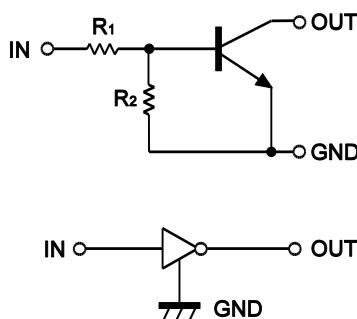
●Outline

VMT3 	EMT3 
DTD723YM (SC-105AA)	DTD723YE SOT-416 (SC-75A)

●Features

- 1) Built-In Biasing Resistors
- 2) Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see inner circuit).
- 3) The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input. They also have the advantage of completely eliminating parasitic effects.
- 4) Only the on/off conditions need to be set for operation, making the circuit design easy.
- 5) Complementary PNP Types :DTB723Y series
- 6) Lead Free/RoHS Compliant.

●Inner circuit



●Application

Switching circuit, Inverter circuit, Interface circuit, Driver circuit

●Packaging specifications

Part No.	Package	Package size (mm)	Taping code	Reel size (mm)	Tape width (mm)	Basic ordering unit (pcs)	Marking
DTD723YM	VMT3	1212	T2L	180	8	8,000	M62
DTD723YE	EMT3	1616	TL	180	8	3,000	M62

● Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Values	Unit
Supply voltage	V _{CC}	30	V
Input voltage	V _{IN}	-5 to +15	V
Collector current	I _{C(MAX.)} ^{*1}	200	mA
Power dissipation	P _D ^{*2}	150	mW
Junction temperature	T _j	150	°C
Range of storage temperature	T _{stg}	-55 to +150	°C

● Electrical characteristics(Ta = 25°C)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Input voltage	V _{I(off)}	V _{CC} = 5V, I _O = 100μA	-	-	0.3	V
	V _{I(on)}	V _O = 0.3V, I _O = 20mA	2.5	-	-	
Output voltage	V _{O(on)}	I _O / I _I = 50mA / 2.5mA	-	0.07	0.3	V
Input current	I _I	V _I = 5V	-	-	3	mA
Output current	I _{O(off)}	V _{CC} = 30V, V _I = 0V	-	-	0.5	μA
DC current gain	G _I	V _O = 2V, I _O = 100mA	140	-	-	-
Input resistance	R ₁	-	1.54	2.2	2.86	kΩ
Resistance ratio	R ₂ /R ₁	-	3.6	4.5	5.5	-
Transition frequency	f _T ^{*1}	V _{CE} = 10V, I _E = -5mA, f = 100MHz	-	260	-	MHz

*1 Characteristics of built-in transistor

*2 Each terminal mounted on a reference footprint

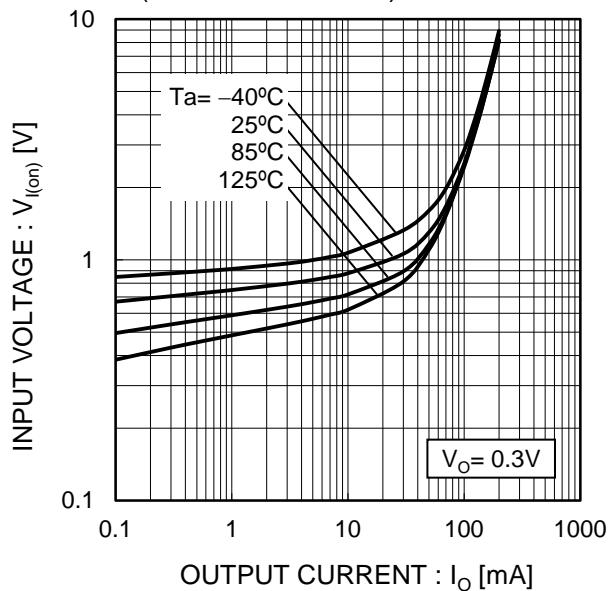
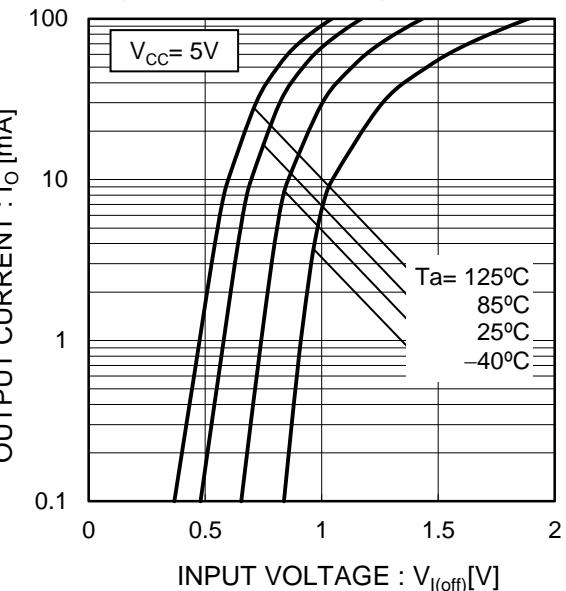
●Electrical characteristic curves($T_a = 25^\circ\text{C}$)Fig.1 Input voltage vs. output current
(ON characteristics)Fig.2 Output current vs. input voltage
(OFF characteristics)

Fig.3 Output current vs. output voltage

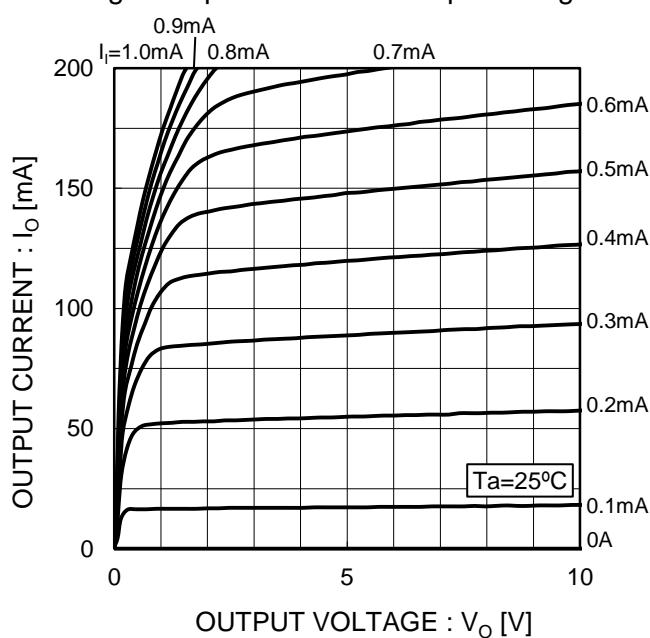
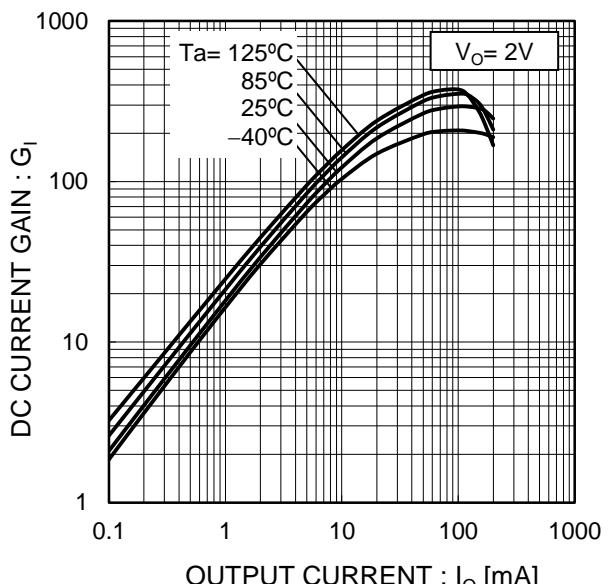
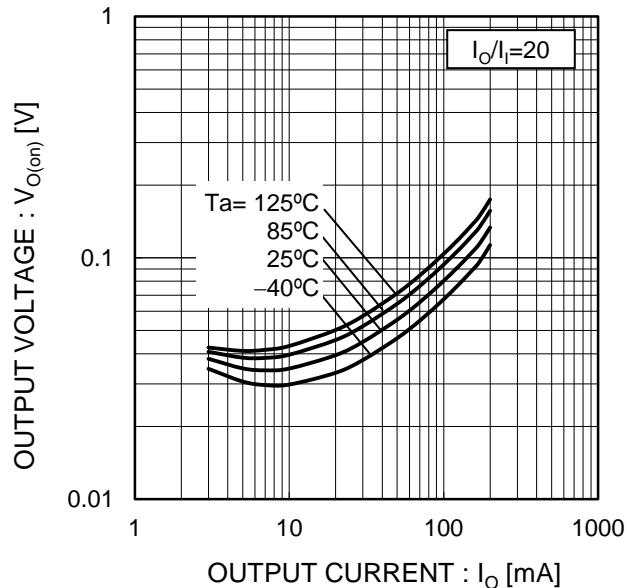


Fig.4 DC current gain vs. output current

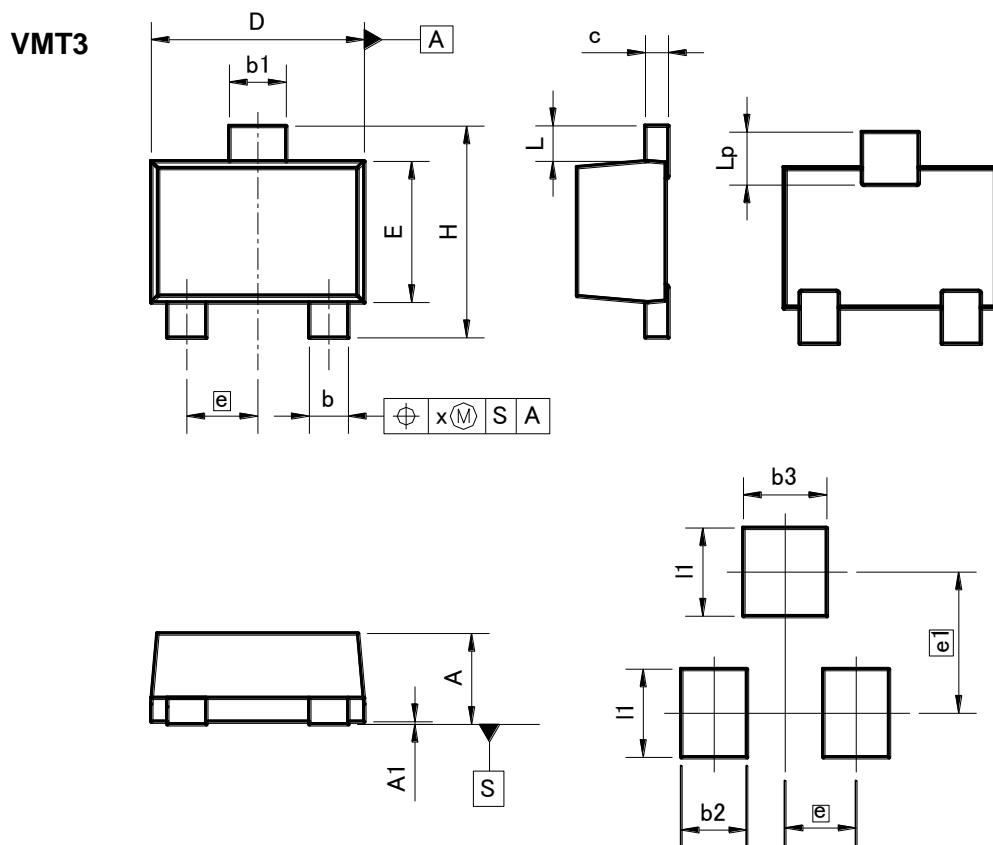


●Electrical characteristic curves(Ta = 25°C)

Fig.5 Output voltage vs. output current



●Dimensions (Unit : mm)

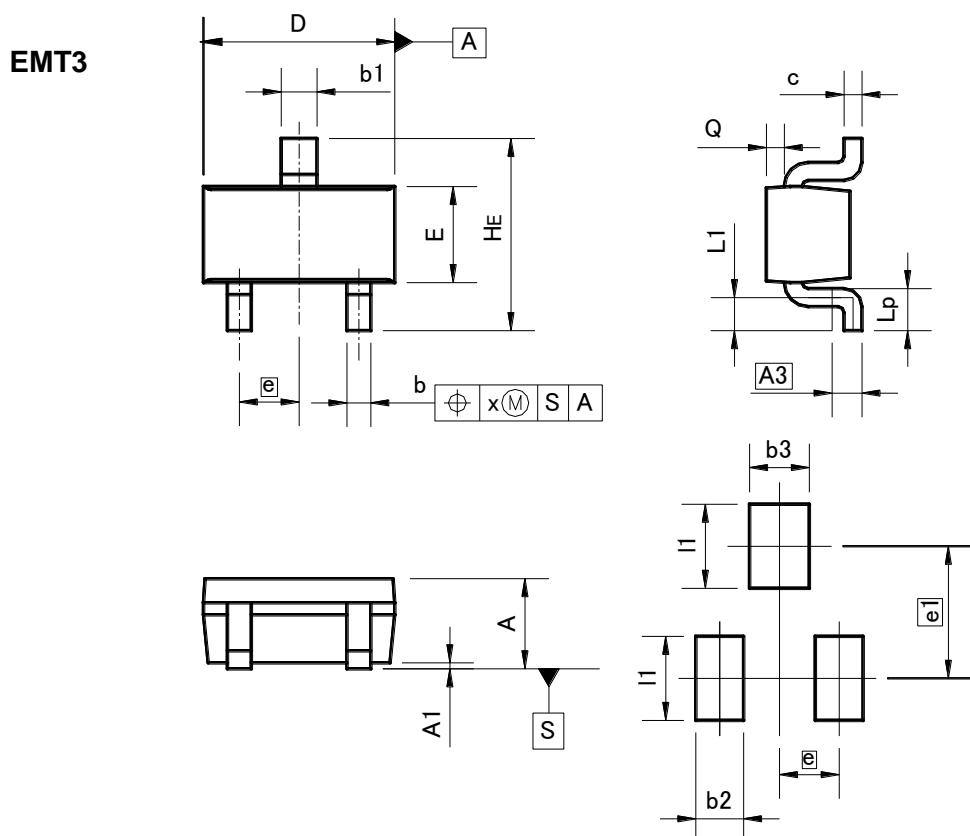
Pattern of terminal position areas

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.45	0.55	0.018	0.022
A1	0.00	0.10	0	0.004
b	0.17	0.27	0.007	0.011
b1	0.27	0.37	0.011	0.015
c	0.08	0.18	0.003	0.007
D	1.10	1.30	0.043	0.051
E	0.70	0.90	0.028	0.035
e	0.40		0.02	
HE	1.10	1.30	0.043	0.051
L	0.10	0.30	0.004	—
Lp	0.20	0.40	0.008	—
x	—	0.10	—	0.004

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
e1	0.80		0.03	
b2	—	0.37	—	0.015
b3	—	0.47	—	0.019
I1	—	0.50	—	0.02

Dimension in mm/inches

●Dimensions (Unit : mm)



Pattern of terminal position areas

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.60	0.80	0.024	0.031
A1	0.00	0.10	0	0.004
A3	0.25		0.01	
b	0.15	0.30	0.006	0.012
b1	0.25	0.40	0.01	0.016
c	0.10	0.20	0.004	0.008
D	1.50	1.70	0.059	0.067
E	0.70	0.90	0.028	0.035
e	0.50		0.02	
HE	1.40	1.80	0.055	0.071
L1	0.10	—	0.004	—
Lp	0.15	—	0.006	—
Q	0.05	0.25	0.002	0.01
x	—	0.10	—	0.004

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
e1	1.10		0.04	
b2	—	0.40	—	0.016
b3	—	0.50	—	0.02
l1	—	0.70	—	0.028

Dimension in mm/inches

Notes

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