

Parameter	Value
V_{CEO}	-50V
I_C	-100mA
R_1	200k Ω

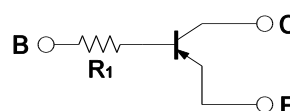
●Outline

<p>UMT3</p> <p>Collector</p> <p>Base</p> <p>Emitter</p> <p>DTA125TUA SOT-323 (SC-70)</p>	<p>SMT3</p> <p>Collector</p> <p>Base</p> <p>Emitter</p> <p>DTA125TKA SOT-346 (SC-59)</p>
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●Features

- 1) Built-In Biasing Resistors
- 2) Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent 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 NPN Types :DTC125T 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
DTA125TUA	UMT3	2021	T106	180	8	3,000	9A
DTA125TKA	SMT3	2928	T146	180	8	3,000	9A

●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Values	Unit
Collector-base voltage	V_{CBO}	-50	V
Collector-emitter voltage	V_{CEO}	-50	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-100	mA
Collector Power dissipation	P_C^{*2}	200	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
Collector-base breakdown voltage	BV_{CBO}	$I_C = -50\mu A$	-50	-	-	V
Collector-emitter breakdown voltage	BV_{CEO}	$I_C = -1mA$	-50	-	-	V
Emitter-base breakdown voltage	BV_{EBO}	$I_E = -50\mu A$	-5	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB} = -50V$	-	-	-0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4V$	-	-	-0.5	μA
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C / I_E = -0.5mA / -0.05mA$	-	-	-0.3	V
DC current gain	h_{FE}	$V_{CE} = -5V, I_C = -1mA$	100	250	600	-
Input resistance	R_1	-	140	200	260	k Ω
Transition frequency	f_T^{*1}	$V_{CE} = -10V, I_E = 5mA,$ $f = 100MHz$	-	250	-	MHz

*1 Characteristics of built-in transistor

*2 Each terminal mounted on a reference footprint

●Electrical characteristic curves(Ta = 25°C)

Fig.1 Grounded emitter propagation characteristics

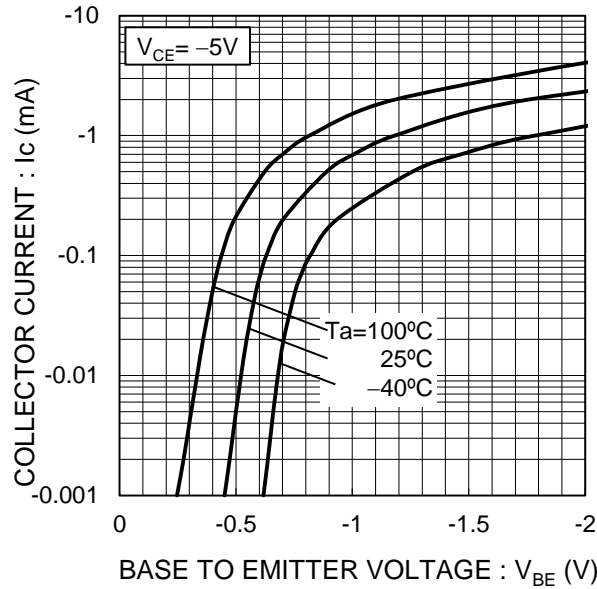


Fig.2 Grounded emitter output characteristics

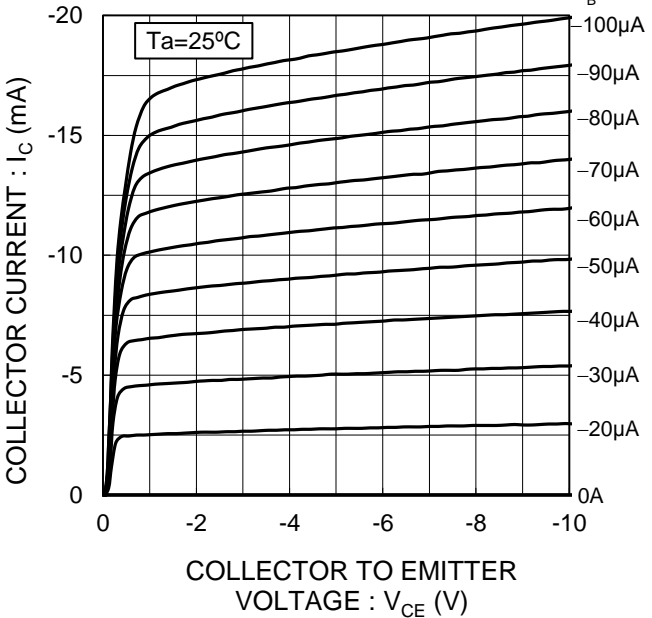


Fig.3 DC Current gain vs. Collector Current

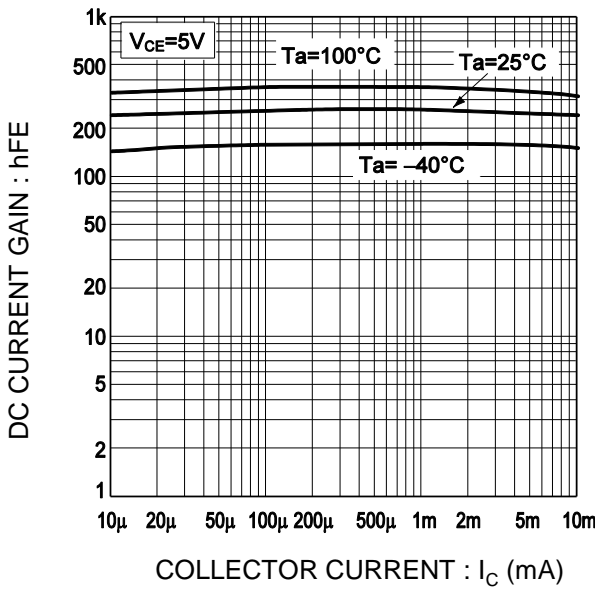
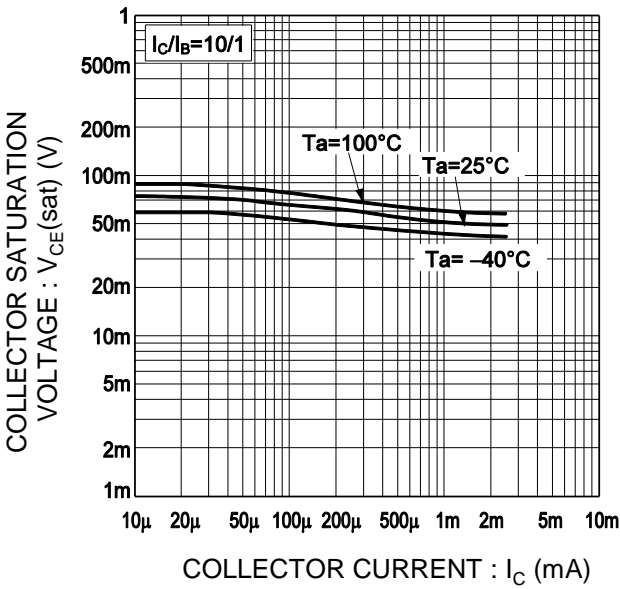
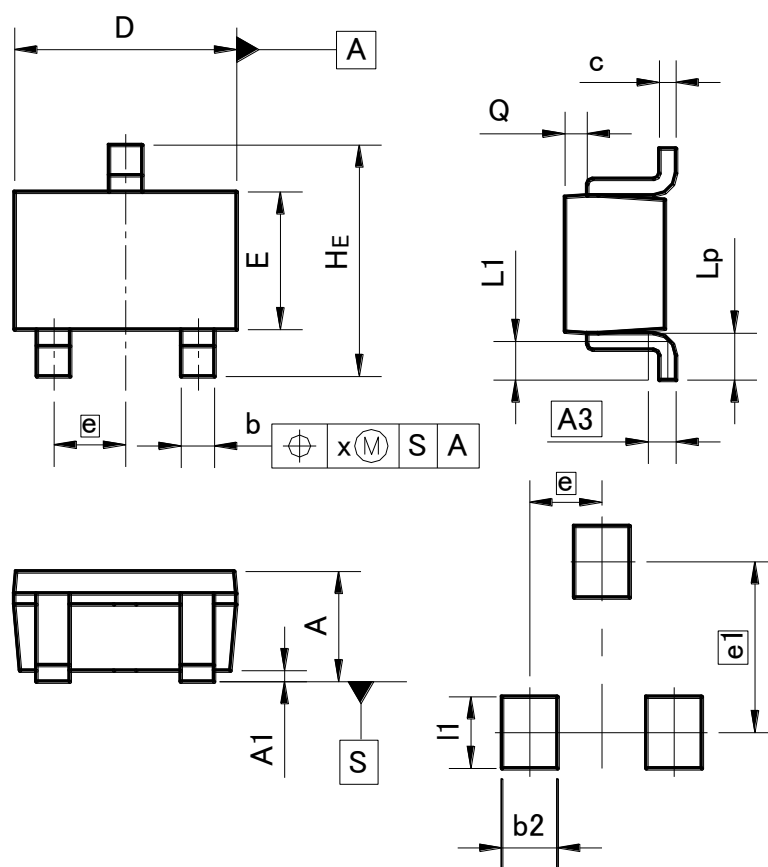


Fig.4 Collector-emitter saturation voltage vs. Collector Current



●Dimensions (Unit : mm)

UMT3



Pattern of terminal position areas

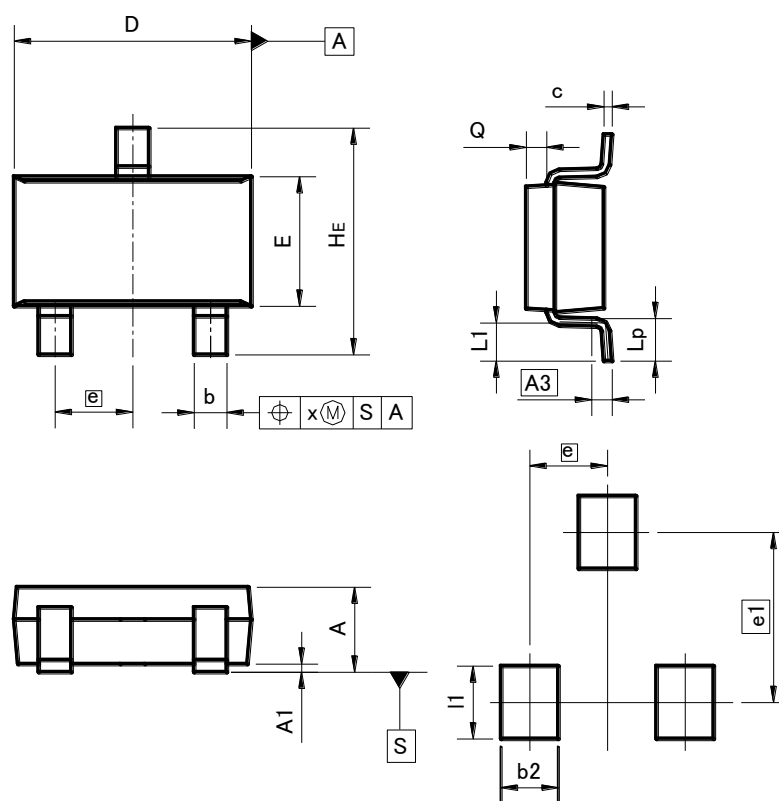
DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.80	1.00	0.031	0.039
A1	0.00	0.10	0	0.004
A3	0.25		0.01	
b	0.15	0.30	0.006	0.012
c	0.10	0.20	0.004	0.008
D	1.90	2.10	0.075	0.083
E	1.15	1.35	0.045	0.053
e	0.65		0.03	
HE	2.00	2.20	0.079	0.087
L1	0.20	0.50	0.008	0.02
Lp	0.25	0.55	0.01	0.022
Q	0.10	0.30	0.004	0.012
x	—	0.10	—	0.004

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
e1	1.55		0.06	
b2	—	0.50	—	0.02
l1	—	0.65	—	0.026

Dimension in mm/inches

●Dimensions (Unit : mm)

SMT3



Pattern of terminal position areas

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.00	1.30	—	0.051
A1	0.00	0.10	0	0.004
A3	0.25		0.01	
b	0.35	0.50	0.014	0.02
c	0.09	0.25	0.004	0.01
D	2.80	3.00	0.11	0.118
E	1.50	1.80	0.059	0.071
e	0.95		0.04	
HE	2.60	3.00	0.102	0.118
L1	0.30	0.60	0.012	0.024
Lp	0.40	0.70	0.016	0.028
Q	0.20	0.30	0.008	0.012
x	—	0.10	—	0.004
y	—	0.10	—	0.004

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
e1	2.10		0.08	
b2	—	0.60	—	0.024
l1	—	0.90	—	0.035

Dimension in mm/inches

Notes

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