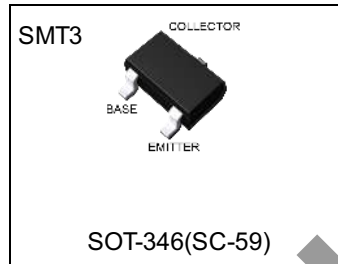


Parameter	Value
$V_{CEO}$	-50V
$I_C$	-100mA
R	22k $\Omega$

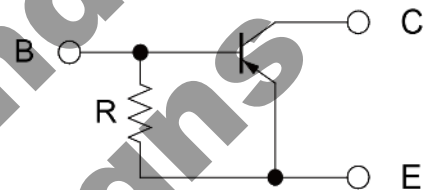
●Outline



●Features

- 1) Built-In Biasing Resistor
- 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) Complementary NPN Types: DTC124G series
- 5) Lead Free/RoHS Compliant.

●Inner circuit



B: BASE  
C: COLLECTOR  
E: EMITTER

●Application

Switching circuit, Inverter circuit, Interface circuit, Driver circuit

●Packaging specifications

Part No.	Package	Package size	Taping code	Reel size (mm)	Tape width (mm)	Basic ordering unit.(pcs)	Marking
DTA124GKA	SMT3	2928	T146	180	8	3000	K15

● **Absolute maximum ratings** ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Values	Unit
Collector-base voltage	$V_{\text{CBO}}$	-50	V
Collector-emitter voltage	$V_{\text{CEO}}$	-50	V
Emitter-base voltage	$V_{\text{EBO}}$	-5	V
Collector current	$I_{\text{C}}$	-100	mA
Power dissipation	$P_{\text{D}}^{*1}$	200	mW/Total
Junction temperature	$T_{\text{j}}$	150	$^\circ\text{C}$
Range of storage temperature	$T_{\text{stg}}$	-55 to +150	$^\circ\text{C}$

● **Electrical characteristics** ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Collector-base breakdown voltage	$BV_{\text{CBO}}$	$I_{\text{C}} = -50\mu\text{A}$	-50	-	-	V
Collector-emitter breakdown voltage	$BV_{\text{CEO}}$	$I_{\text{C}} = -1\text{mA}$	-50	-	-	V
Emitter-base breakdown voltage	$BV_{\text{EBO}}$	$I_{\text{E}} = -330\mu\text{A}$	-5	-	-	V
Collector cut-off current	$I_{\text{CBO}}$	$V_{\text{CB}} = -50\text{V}$	-	-	-0.5	$\mu\text{A}$
Emitter cut-off current	$I_{\text{EBO}}$	$V_{\text{EB}} = -4\text{V}$	-140	-	-260	$\mu\text{A}$
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}$	$I_{\text{C}} / I_{\text{B}} = -10\text{mA} / -0.5\text{mA}$	-	-	-0.3	V
DC current gain	$h_{\text{FE}}$	$V_{\text{CE}} = -5\text{V}, I_{\text{C}} = -5\text{mA}$	56	-	-	-
Emitter-base resistance	R	-	15.4	22	28.6	$\text{k}\Omega$
Transition frequency	$f_{\text{T}}^{*2}$	$V_{\text{CE}} = -10\text{V}, I_{\text{E}} = 5\text{mA}, f = 100\text{MHz}$	-	250	-	MHz

\*1 Each terminal mounted on a reference footprint

\*2 Characteristics of built-in transistor

● Electrical characteristic curves ( $T_a = 25^\circ\text{C}$ )

Fig.1 Grounded emitter propagation characteristics

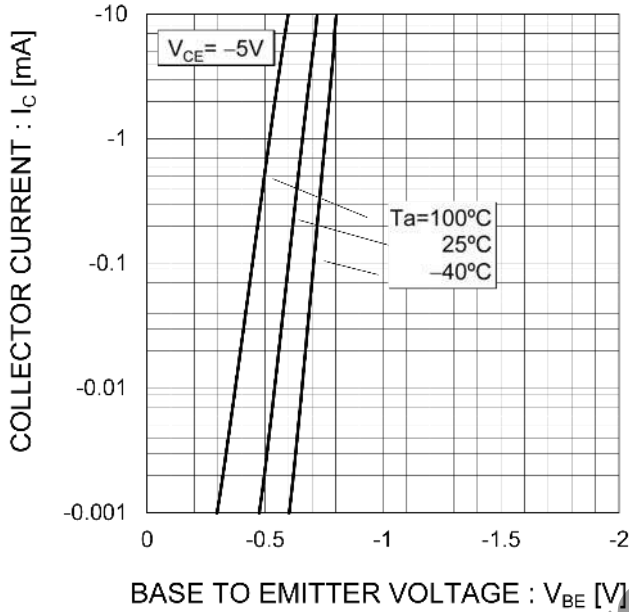


Fig.2 Grounded emitter output characteristics

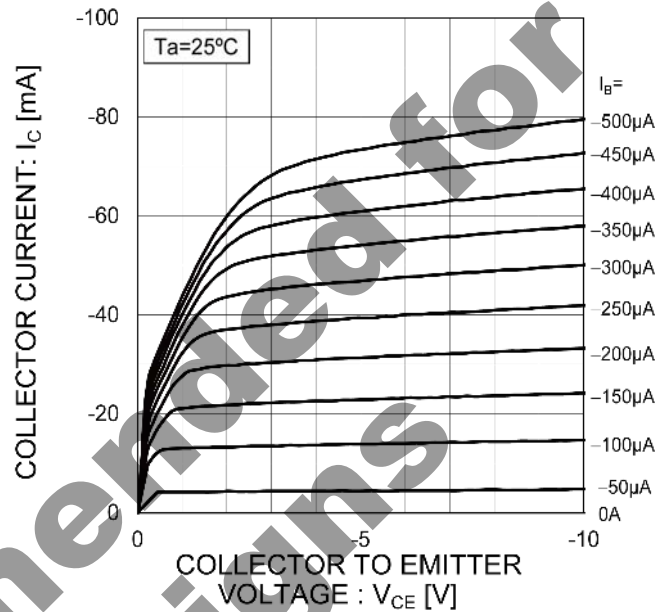


Fig.3 DC Current gain vs. Collector Current

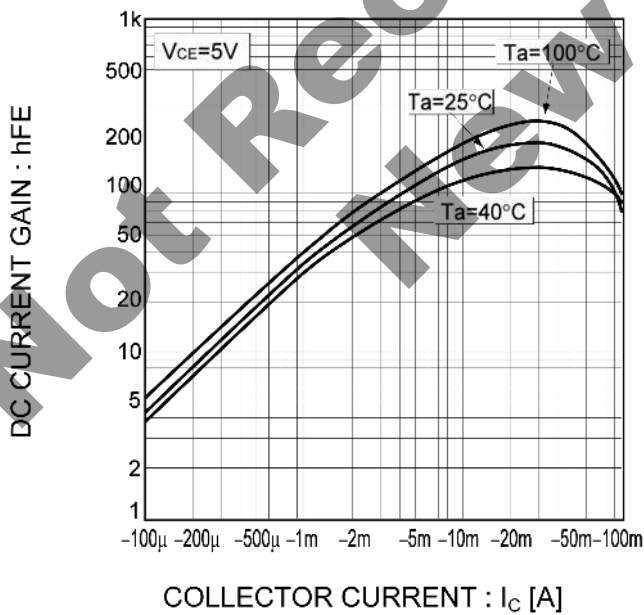
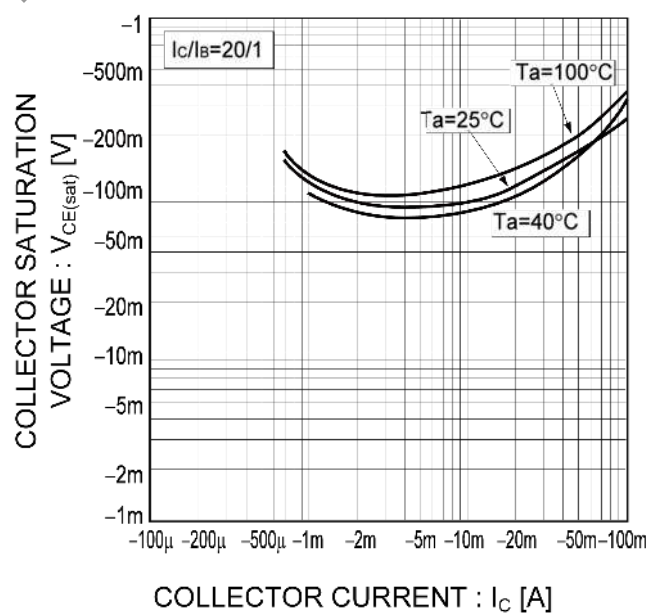
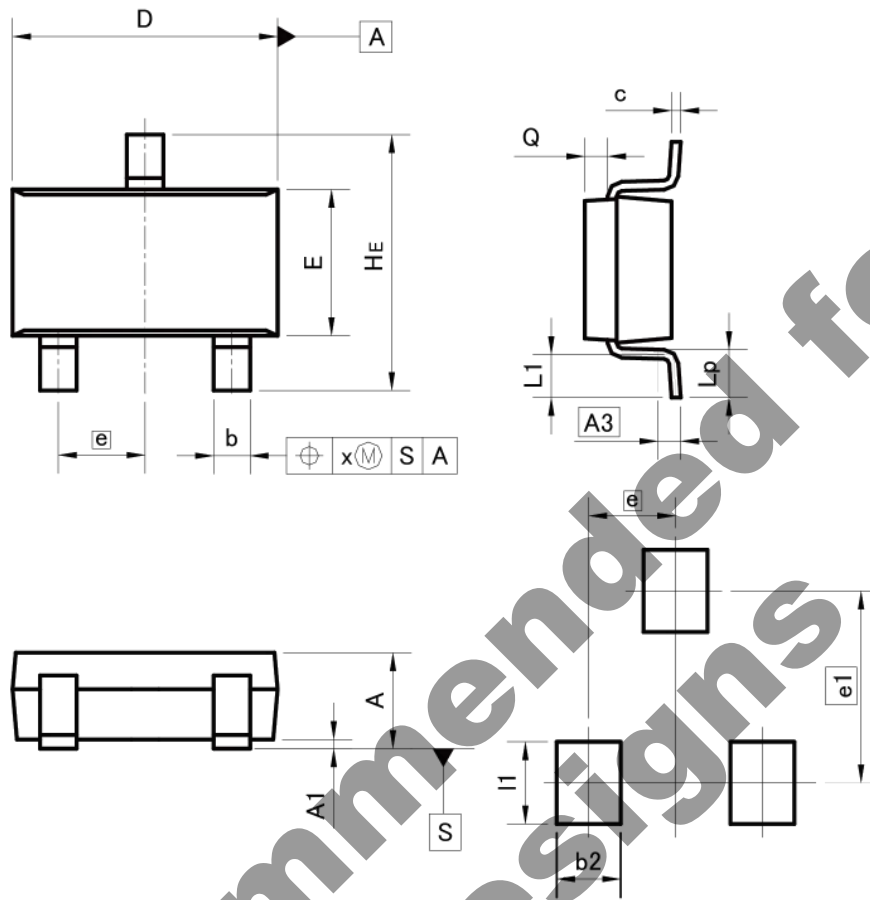


Fig.4 Collector-emitter saturation voltage vs. Collector Current



●Dimensions

SMT3



Pattern of terminal position areas  
[Not a recommended pattern of soldering pads]

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.00	1.30	0.039	0.051
A1	0.00	0.10	0.000	0.004
A3	0.25		0.010	
b	0.35	0.50	0.014	0.020
c	0.09	0.25	0.004	0.010
D	2.80	3.00	0.110	0.118
E	1.50	1.80	0.059	0.071
e	0.95		0.037	
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
b2	-	0.60	-	0.024
e1	2.10		0.083	
I1	-	0.90	-	0.035

Dimension in mm/inches

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