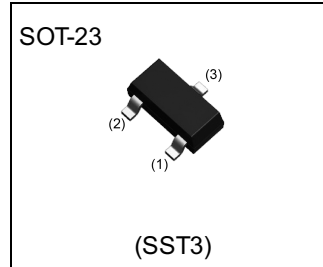


Parameter	Value
$V_{CE0}$	50V
$I_C$	100mA
$R_1$	100k $\Omega$

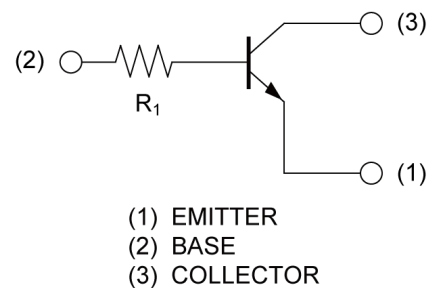
### ●Outline



### ●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) Only the on/off conditions need to be set for operation, making the circuit design easy.
- 4) Complementary PNP Types: DTA115TCA

### ●Inner circuit



### ●Application

INVERTER, INTERFACE, DRIVER

### ●Packaging specifications

Part No.	Package	Package size	Taping code	Reel size (mm)	Tape width (mm)	Basic ordering unit.(pcs)	Marking
DTC115TCA	SOT-23 (SST3)	2924	T116	180	8	3000	09

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

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
Power dissipation	$P_D^{*1}$	200	mW
	$P_D^{*2}$	350	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Range of storage temperature	$T_{stg}$	-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	$BV_{CBO}$	$I_C = 50\mu\text{A}$	50	-	-	V
Collector-emitter breakdown voltage	$BV_{CEO}$	$I_C = 1\text{mA}$	50	-	-	V
Emitter-base breakdown voltage	$BV_{EBO}$	$I_E = 50\mu\text{A}$	5	-	-	V
Collector cut-off current	$I_{CBO}$	$V_{CB} = 50\text{V}$	-	-	500	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 4\text{V}$	-	-	500	nA
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 1\text{mA}, I_B = 0.1\text{mA}$	-	-	300	mV
DC current gain	$h_{FE}$	$V_{CE} = 5\text{V}, I_C = 1\text{mA}$	100	250	600	-
Input resistance	$R_1$	-	70	100	130	k $\Omega$
Transition frequency	$f_T^{*3}$	$V_{CE} = 10\text{V}, I_E = -5\text{mA}, f = 100\text{MHz}$	-	250	-	MHz

\*1 Each terminal mounted on a reference land.

\*2 Mounted on a ceramic board(7.0×5.0×0.6mm).

\*3 Characteristics of built-in transistor

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

Fig.1 Grounded emitter propagation characteristics

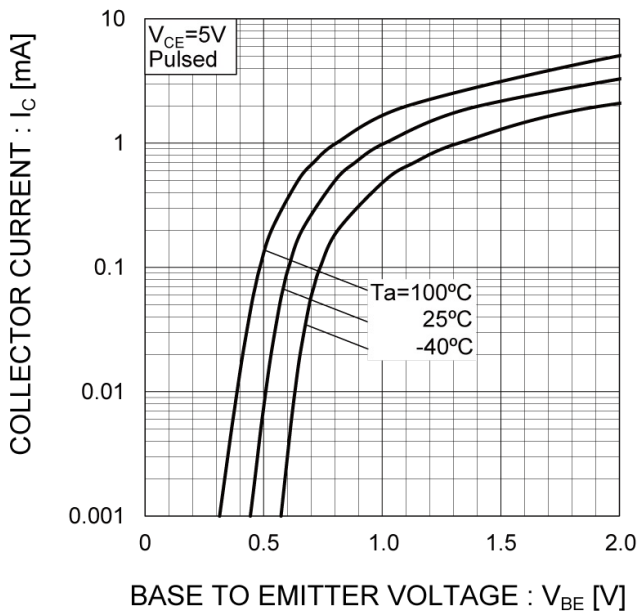


Fig.2 Typical Output Characteristics

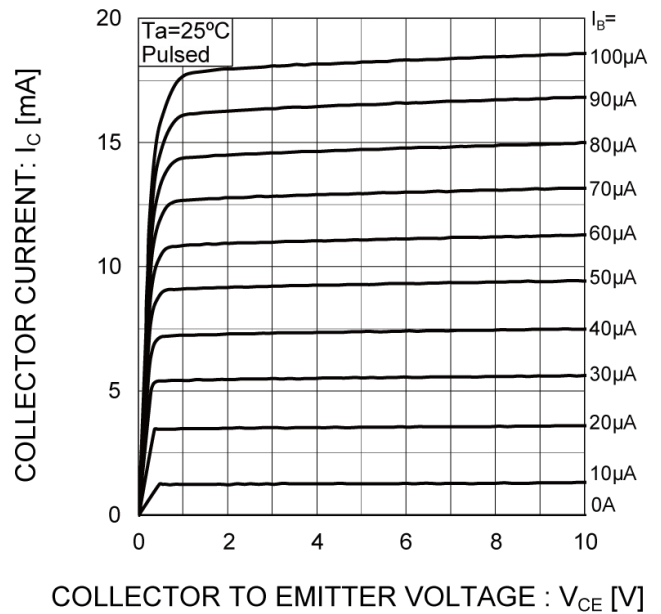


Fig.3 DC Current Gain vs. Collector Current

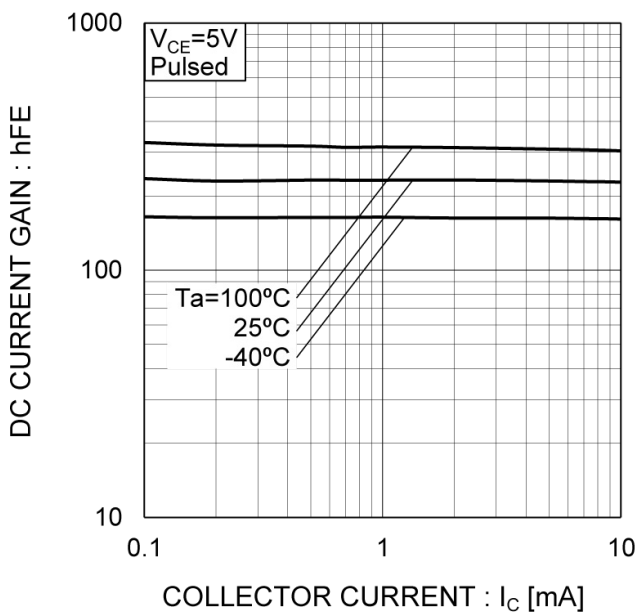
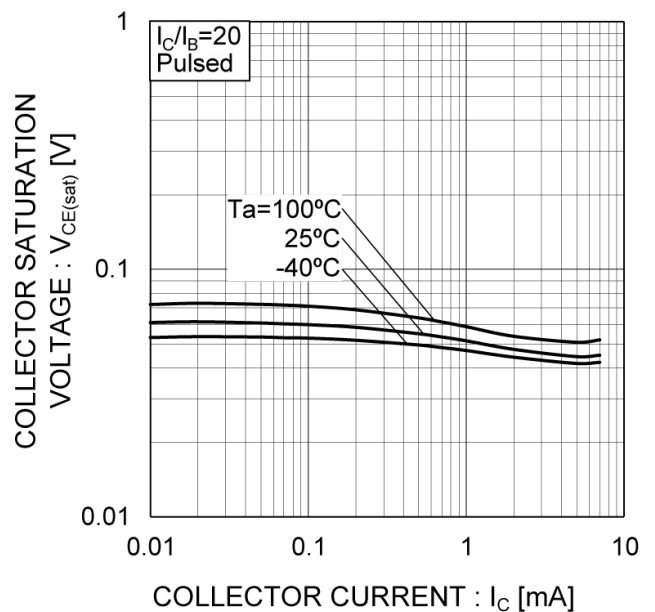


Fig.4 Collector-Emitter Saturation Voltage vs. Collector Current



●Dimensions

SOT-23  
(SST3)



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

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.90	1.20	0.035	0.047
A1	0.00	0.10	0.000	0.004
A2	0.85	1.15	0.033	0.045
A3	0.25		0.010	
b	0.35	0.50	0.014	0.020
c	0.09	0.25	0.004	0.010
D	2.70	3.10	0.106	0.122
E	1.20	1.50	0.047	0.059
e	0.95		0.037	
HE	2.20	2.60	0.087	0.102
L1	0.20	-	0.008	-
Lp	0.30	-	0.012	-
Q	0.40	0.60	0.016	0.024
x	-	0.10	-	0.004

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
b2	-	0.60	-	0.024
e1	1.70		0.067	
l1	-	0.90	-	0.035

Dimension in mm/inches

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(Note1) Medical Equipment Classification of the Specific Applications

JAPAN	USA	EU	CHINA
CLASS III	CLASS III	CLASS II b	CLASS III
CLASS IV		CLASS III	

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  - Use of our Products in places where the Products are exposed to static electricity or electromagnetic waves
  - Use of our Products in proximity to heat-producing components, plastic cords, or other flammable items
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  - Use of the Products in places subject to dew condensation
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- Confirm that operation temperature is within the specified range described in the product specification.
- ROHM shall not be in any way responsible or liable for failure induced under deviant condition from what is defined in this document.

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1. Product performance and soldered connections may deteriorate if the Products are stored in the places where:
  - [a] the Products are exposed to sea winds or corrosive gases, including Cl<sub>2</sub>, H<sub>2</sub>S, NH<sub>3</sub>, SO<sub>2</sub>, and NO<sub>2</sub>
  - [b] the temperature or humidity exceeds those recommended by ROHM
  - [c] the Products are exposed to direct sunshine or condensation
  - [d] the Products are exposed to high Electrostatic
2. Even under ROHM recommended storage condition, solderability of products out of recommended storage time period may be degraded. It is strongly recommended to confirm solderability before using Products of which storage time is exceeding the recommended storage time period.
3. Store / transport cartons in the correct direction, which is indicated on a carton with a symbol. Otherwise bent leads may occur due to excessive stress applied when dropping of a carton.
4. Use Products within the specified time after opening a humidity barrier bag. Baking is required before using Products of which storage time is exceeding the recommended storage time period.

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