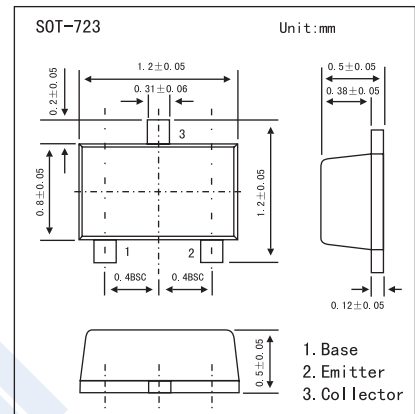


## Digital Transistors

## DTA114TM

## ■ Features

- PNP Epitaxial Planar Silicon Transistor (Resistor Built-In Typ.)
- Built-In Bias Resistors Enable The Configuration of An Inverter Circuit Without Connecting External Input Resistors  
(See Equivalent Circuit).

■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CB0}$	-50	V
Collector-Emitter Voltage	$V_{CE0}$	-50	V
Emitter-Base Voltage	$V_{EB0}$	-5	V
Collector Current	$I_C$	-100	mA
Collector Power Dissipation	$P_C$	150	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

■ Electrical Characteristics  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$BV_{CB0}$	$I_C = -50 \mu\text{A}$	-50			V
Collector-Emitter Breakdown Voltage	$BV_{CE0}$	$I_C = -1\text{mA}$	-50			V
Emitter-Base Breakdown Voltage	$BV_{EB0}$	$I_E = -50 \mu\text{A}$	-5			V
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = -50\text{V}$			-0.5	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = -4\text{V}$			-0.5	$\mu\text{A}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -10\text{mA}, I_B = -1\text{mA}$			-0.3	V
DC Current Transfer Ratio	$h_{FE}$	$V_{CE} = -5\text{V}, I_C = -1\text{mA}$	100	250	600	
Input Resistance	$R_1$		7	10	13	$\text{k}\Omega$
Transistion Frequency	$f_r^*$	$V_{CE} = -10\text{V}, I_E = 5\text{mA}, f = 100\text{MHz}$		250		MHz

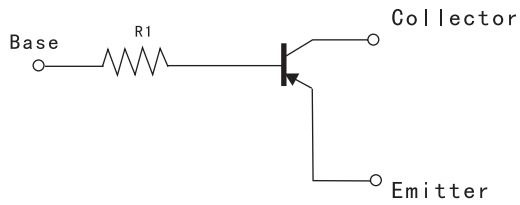
\* Characteristics of built-in transistor

## ■ Marking

Marking	94
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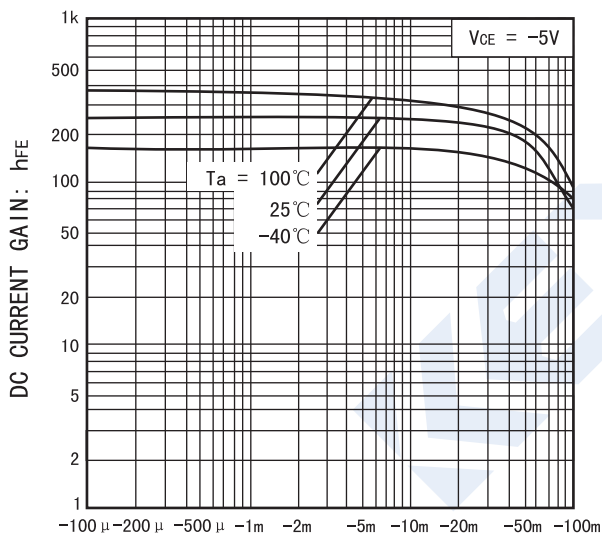
# DTA114TM

## Equivalent Circuit

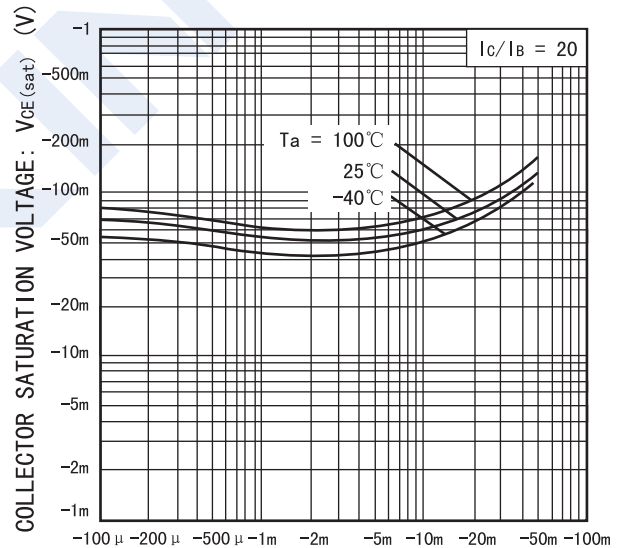


$R_1 = 10k\Omega$

## Electrical Characteristics Curves



COLLECTOR CURRENT:  $I_C$  (A)  
DC current gain vs. collector current



COLLECTOR CURRENT:  $I_C$  (A)  
Collector-emitter saturation voltage vs. collector current