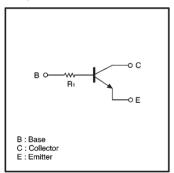
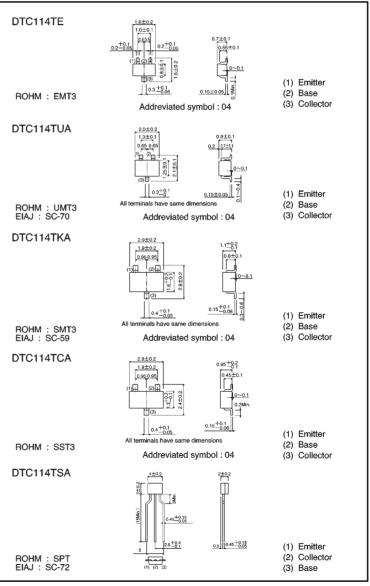
# Digital transistors (built in resistor) DTC114TE / DTC114TUA / DTC114TKA DTC114TCA / DTC114TSA

#### Features

- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit).
- The bias resistors consist of thinfilm resistors with complete isolation to allow negative biasing of the input. They also have the advantage of almost completely eliminating parasitic effects.
- Only the on/off conditions need to be set for operation, making device design easy.
- StructureNPN digital transistor(With single built in resistor)
- Equivalent circuit



External dimensions (Units: mm)



(96-311-C114T)

# ●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol		Unit				
- Farameter		Е	UA	KA	CA	SA	Oill
Collector-base voltage	Vcво		V				
Collector-emitter voltage	Vceo		٧				
Emitter-base voltage	VEBO		٧				
Collector current	lc		mA				
Collector power dissipation	Pc	150		200		300	mW
Junction temperature	Tj		°C				
Storage temperature	Tstg		Ĉ				

# ●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Collector-base breakdown voltage	ВУсво	50	_	_	٧	Ic=50 μ A
Collector-emitter breakdown voltage	BVCEO	50	_	_	٧	Ic=1mA
Emitter-base breakdown voltage	BVEBQ	5	_	_	٧	IE=50 μ A
Collector cutoff current	Ісво	_	_	0.5	μΑ	V <sub>CB</sub> =50V
Emitter cutoff current	IEBO	_	_	0.5	μΑ	V <sub>EB</sub> =4V
Collector-emitter saturation voltage	V <sub>CE</sub> (sat)	_	_	0.3	٧	Ic/Iв=10mA/1mA
DC current transfer ratio	hfE	100	300	600	_	VcE=5V, Ic=1mA
Input resistance	R <sub>1</sub>	7	10	13	kΩ	_
Transition frequency	f⊤	_	250		MHz	VcE=10V, IE=-5mA, f=100MHz *

<sup>\*</sup> Transition frequency of the device

### Packaging specifications

	Package	EMT3	UMT3	SMT3	SST3	SPT
	Packaging type	Taping	Taping	Taping	Taping	Taping
	Code	TL	T106	T146	T116	TP
Part No.	Basic ordering unit (pieces)	3000	3000	3000	3000	5000
DTC114TE		0	_	_	_	_
DTC114TE	4	O -	-	_ _	_ _	_
		0 - -	_ _ _	_ _ _	_ _ _	_ _ _
DTC114TU	1	0 - -	- 0 -	_ _ _ _	_ _ _ _	_ _ _ _

#### Electrical characteristic curves

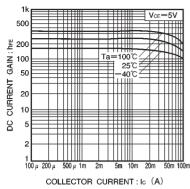


Fig.1 DC current gain vs. collector current

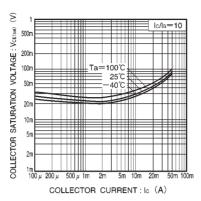


Fig.2 Collector-emitter saturation voltage vs. collector current