

DTA144GE DTA144GUA DTA144GKA

Digital transistor, PNP, with 1 resistor

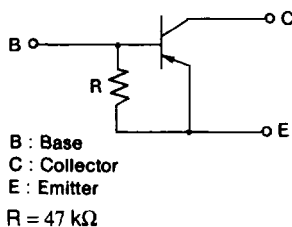
Features

- available in EMT3 (EM3), UMT3 (UMT, SC-70), and SMT3 (SMT, SC-59) packages
- package marking: DTA144GE, DTA144GUA, and DTA144GKA; K16
- a built-in bias resistor allows inverter circuit configuration without external input resistors
- bias resistor consists of a thin-film resistor which is completely isolated, providing the capability to positive-bias the PNP input, and avoids parasitic effects
- design of circuits is simple because only ON and OFF conditions have to be set

Applications

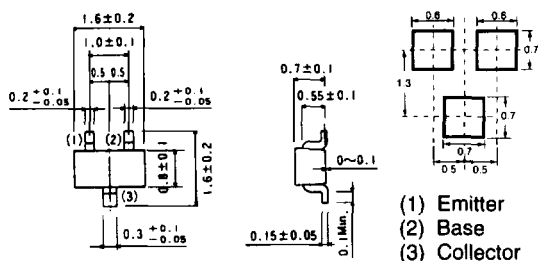
- transistor switch

Equivalent circuit

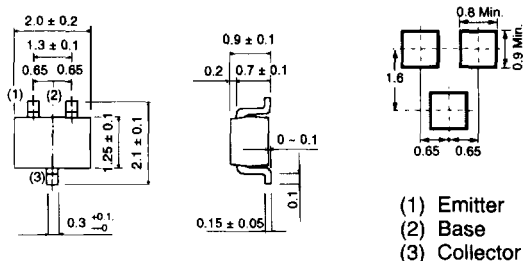


Dimensions (Units : mm)

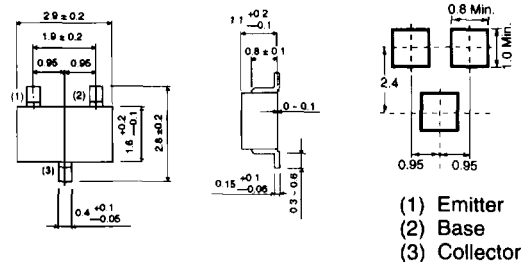
DTA144GE (EMT3)



DTA144GUA (UMT3)



DTA144GKA (SMT3)



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

Parameter		Symbol	Limits	Unit
Collector-to-base voltage		V_{CBO}	-50	V
Collector-to-emitter voltage		V_{CEO}	-50	V
Emitter-to-base voltage		V_{EBO}	-5	V
Collector current		I_C	-100	mA
Collector dissipation	DTA144GE	P_C	150	mW
	DTA144GUA		200	
	DTA144GKA		200	
Junction temperature		T_j	150	$^\circ\text{C}$
Storage temperature		T_{stg}	-55 ~ +150	$^\circ\text{C}$

Electrical characteristics (unless otherwise noted, $T_a = 25^\circ\text{C}$)

Parameter	Symbol	Min	Typical	Max	Unit	Conditions
Collector-to-base breakdown voltage	BV_{CBO}	-50			V	$I_C = -50\ \mu\text{A}$
Collector-to-emitter breakdown voltage	BV_{CEO}	-50			V	$I_C = -1\ \text{mA}$
Emitter-to-base breakdown voltage	BV_{EBO}	-5			V	$I_E = -160\ \mu\text{A}$
Collector cutoff current	I_{CBO}			-0.5	μA	$V_{CB} = -50\ \text{V}$
Emitter cutoff current	I_{EBO}	-65		-130	μA	$V_{EB} = -4\ \text{V}$
DC current gain	h_{FE}	68				$I_C = -5\ \text{mA}$, $V_{CE} = -5\ \text{V}$
Collector-to-emitter saturation voltage	$V_{CE(sat)}$			-0.3	V	$I_C/I_B = -10\ \text{mA}/-0.5\ \text{mA}$
Emitter-to-base resistance	R	32.9	47	61.1	$\text{k}\Omega$	
Transition frequency	f_T		250		MHz	$V_{CE} = -10\ \text{V}$, $I_E = 5\ \text{mA}$, $f = 100\ \text{MHz}$, characteristics of built-in transistor

Electrical characteristic curves

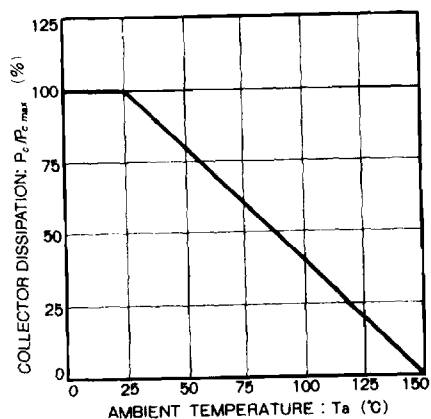


Figure 1

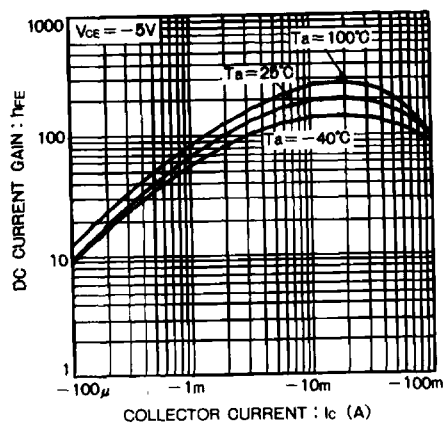


Figure 2

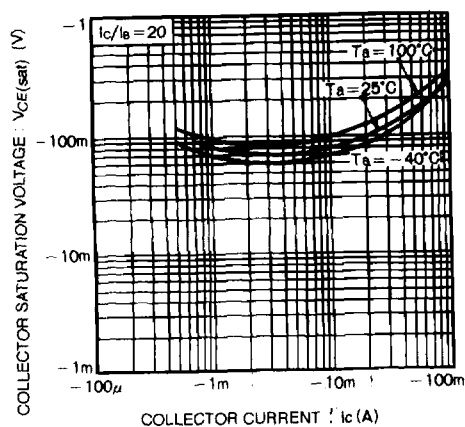


Figure 3

Ordering information

Package	Tape		
Code	TL	T106	T146
Basic order quantity	3000	3000	3000
DTA144GE	☆		
DTA144GUA		☆	
DTA144GKA			☆
★ = Standard, ☆ = Semi-standard, * = Special order			