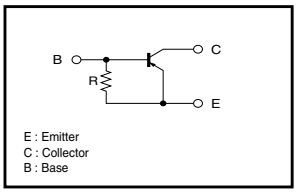
Digital transistors (built-in resistor)

DTA114GUA / DTA114GKA / DTA114GSA

●Features

1) The built-in bias resistors consist of thin-film resistors with complete isolation to allow positive biasing of the input, and parasitic effects are almost completely eliminated.
2) Only the on / off conditions need to be set for operation, making device design easy.
3) Higher mounting densities can be achieved.

●Equivalent circuit



●Absolute maximum ratings (Ta=25°C)

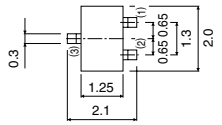
Parameter		Symbol	Limits	Unit
Collector-base voltage		V_{CBO}	−50	V
Collector-emitter voltage		V_{CEO}	−50	V
Emitter-base voltage		V_{EBO}	−5	V
Collector current		I_C	−100	mA
Collector Power dissipation	DTA114GUA / DTA114GKA	Pc	200	mW
	DTA114GSA		300	
Junction temperature		Tj	150	°C
Storage temperature		Tstg	−55 to +150	°C

●Package, marking, and packaging specifications

Type	DTA114GUA	DTA114GKA	DTA114GSA
Package	UMT3	SMT3	SPT
Marking	K14	K14	–
Packaging code	T106	T146	TP
Basic ordering unit (pieces)	3000	3000	5000

●External dimensions (Unit: mm)

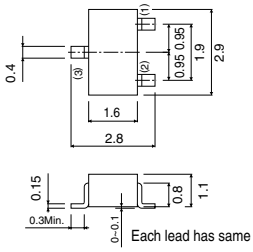
DTA114GUA



ROHM : UMT3
EIAJ : SC-70

(1) Emitter
(2) Base
(3) Collector

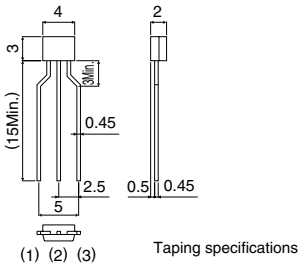
DTA114GKA



ROHM : SMT3
EIAJ : SC-59

(1) Emitter
(2) Base
(3) Collector

DTA114GSA



ROHM : SPT
EIAJ : SC-72

(1) Emitter
(2) Collector
(3) Base

●**Electrical characteristics** (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	−50	–	–	V	I_C= −50μA
Collector-emitter breakdown voltage	BV_{CEO}	−50	–	–	V	I_C= −1mA
Emitter-base breakdown voltage	BV_{EBO}	−5	–	–	V	I_E= −720μA
Collector cutoff current	I_{CBO}	–	–	−0.5	μA	V_{CB}= −50V
Emitter cutoff current	I_{EBO}	−300	–	−580	μA	V_{EB}= −4V
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	–	−0.3	V	I_C= −10mA, I_B= −0.5mA
DC current transfer ratio	h_{FE}	30	–	–	–	I_C= −5mA, V_{CE}= −5V
Emitter-base resistance	R_1	7	10	13	kΩ	–
Transition frequency	f_T	–	250	–	MHz	V_{CE}= −10V, I_E=50mA, f=100MHz *

*Transition frequency of the device.

●**Electrical characteristics curves**

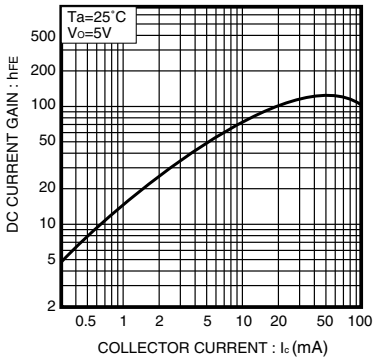


Fig.1 DC Current gain vs. Collector Current

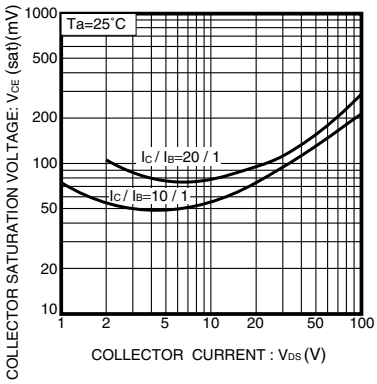


Fig.2 Collector-emitter saturation voltage vs. Collector Current

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