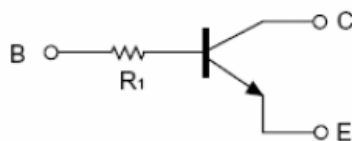


DIGITAL TRANSISTOR (NPN)

FEATURES

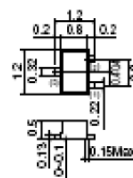
- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit).
- The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input. They also have the advantage of almost completely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



B : Base
C : Collector
E : Emitter

Digital Transistor (built-in resistor)

DTC114TM

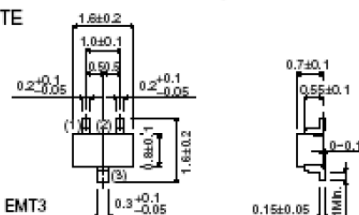


ROHM : VMT3

Abbreviated symbol : 94

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

DTC114TE

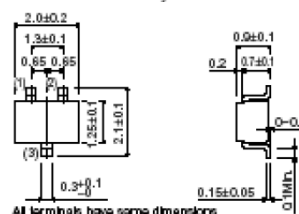


ROHM : EMT3

Abbreviated symbol : 94

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

DTC114TUA



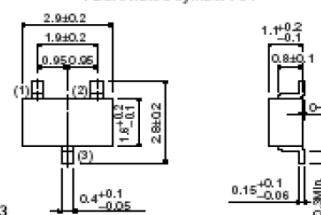
ROHM : UMT3

EIAJ : SC-70

Abbreviated symbol : 94

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

DTC114TKA



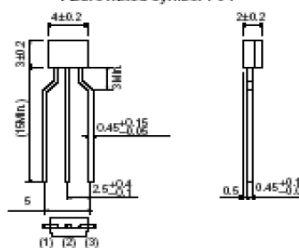
ROHM : SMT3

EIAJ : SC-59

Abbreviated symbol : 94

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

DTC114TSA

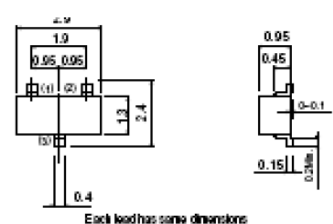


ROHM : SPT

EIAJ : SC-72

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

DTC114TCA



Each load has some dimensions

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

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

ABSOLUTE MAXIMUM RATINGS

Parameters	Symbols	Limits (DTC114T□)						UNITS
		M	E	UA	KA	CA	SA	
Collector-Base Voltage	V _{(BR)CBO}	50						V
Collector-Emitter Voltage	V _{(BR)CEO}	50						V
Emitter-Base Voltage	V _{(BR)EBO}	5						V
Collector Current - Continuous	I _C	100						mA
Collector Power Dissipation	P _C	150		200			300	mW
Junction Temperature	T _j	150						°C
Junction and Storage Temperature	T _{stg}	-55~+150						°C

ELECTRICAL CHARACTERISTICS

Parameters	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=50\mu A, I_E=0$	50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=50\mu A, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=50V, I_E=0$			0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=4V, I_C=0$			0.5	μA
DC current gain	h_{FE}	$V_{CE}=5V, I_C=1mA$	100	300	600	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=1mA$			0.3	V
Transition frequency	f_T	$V_{CE}=10V, I_E=-5mA,$ $f=100MHz$		250		MHz
Input resistor	R_1		7	10	13	k Ω