

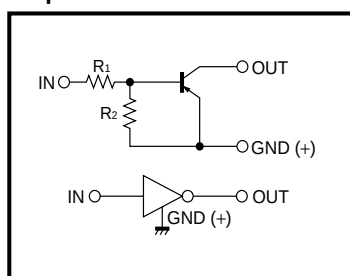
Digital transistors (built-in resistors)

DTA115EM / DTA115EE / DTA115EUA / DTA115EKA / DTA115ESA

●Features

- 1) Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit).
- 2) The bias resistors consist of thin-film resistors with complete isolation to allow positive biasing of the input, and parasitic effects are almost completely eliminated.
- 3) Only the on/off conditions need to be set for operation, making device design easy.
- 4) Higher mounting densities can be achieved.

●Equivalent circuit



●Structure

PNP digital transistor (Built-in resistor type)

●External dimensions (Units : mm)

DTA115EM ROHM : VMT3 Abbreviated symbol : 19	DTA115EE ROHM : EMT3 Abbreviated symbol : 19
DTA115EUA ROHM : UMT3 EIAJ : SC-70 Abbreviated symbol : 19	DTA115EKA ROHM : SMT3 EIAJ : SC-59 Abbreviated symbol : 19
DTA115ESA ROHM : SPT EIAJ : SC-72 Abbreviated symbol : 19	

DTA115EM / DTA115EE / DTA115EUA DTA115EKA / DTA115ESA

Transistors

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V _{CC}	-50	V
Input voltage	V _I	-40~+10	V
Output current	I _O	-20	mA
	I _{C(Max.)}	-100	
Power dissipation	DTA115EM / DTA115EE	150	mW
	DTA115EUA / DTA115EKA	200	
	DTA115ESA	300	
Junction temperature	T _J	150	°C
Storage temperature	T _{stg}	-55~+150	°C

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	V _{I(off)}	-	-	-0.5	V	V _{CC} =-5V, I _O =-100μA
	V _{I(on)}	-3	-	-		V _O =-0.3V, I _O =-1mA
Output voltage	V _{O(on)}	-	-0.1	-0.3	V	I _O =-5mA, I _I =-0.25mA
Input current	I _I	-	-	-0.15	mA	V _I =-5V
Output current	I _{O(off)}	-	-	-0.5	μA	V _{CC} =-50V, V _I =0V
DC current gain	G _I	82	-	-	-	I _O =-5mA, V _O =-5V
Input resistance	R _I	70	100	130	kΩ	-
Resistance ratio	R ₂ /R ₁	0.8	1	1.2	-	-
Transition frequency	f _T	-	250	-	MHz	V _{CE} =10V, I _E =-5mA, f=100MHz *

*Transition frequency of the device.

●Package, marking, and packaging specifications

Type	DTA115EM	DTA115EE	DTA115EUA	DTA115EKA	DTA115ESA
Package	VMT3	EMT3	UMT3	SMT3	SPT
Marking	19	19	19	19	-
Packaging code	T2L	TL	T106	T146	TP
Basic ordering unit (pieces)	8000	3000	3000	3000	5000