

# General purpose (dual digital transistors)

### EMD22 / UMD22N

#### Features

- 1) Both the DTA143Z chip and DTC143Z chip in an EMT or UMT package.
- 2) Mounting possible with EMT3 or UMT3 automatic mounting machines.
- 3) Transistor elements are independent, eliminating interference.
- 4) Mounting cost and area can be cut in half.

#### Structure

A PNP and NPN digital transistor (Each with a single built in resistor)

#### Packaging specifications

Туре	Package	Taping		
	Code	T2R	TR	
	Basic ordering unit (pieces)	8000	3000	
EMD22		0	—	
UMD22N		_	0	

#### •Absolute maximum ratings (Ta=25°C) DTr 1

Symbol	Limits	Unit
Vcc	50	V
Vin	-5 to +30	V
lo	100	
IC (MAX)	100	mA
Pd *	150	mW
Tj	150	°C
Tstg	-55 to +150	°C
	Vcc ViN Io Ic (MAX) Pd * Tj	Vcc 50   VIN −5 to +30   Io 100   Ic (MAX) 100   Pd * 150   Tj 150

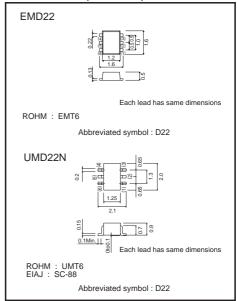
\*120mW per element must not be excer

#### DTr 2

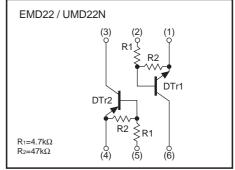
Parameter	Symbol	Limits	Unit
Supply voltage	Vcc	-50	V
Input voltage	Vin	-30 to +5	V
Output ourroat	lo	-100	
Output current	IC (MAX)	-100	mA
Power dissipation *	Pd	150	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C

\*120mW per element must not be exceeded

#### •Dimensions (Unit : mm)



#### Inner circuit



#### •Electrical characteristics (Ta=25°C) DTr 1

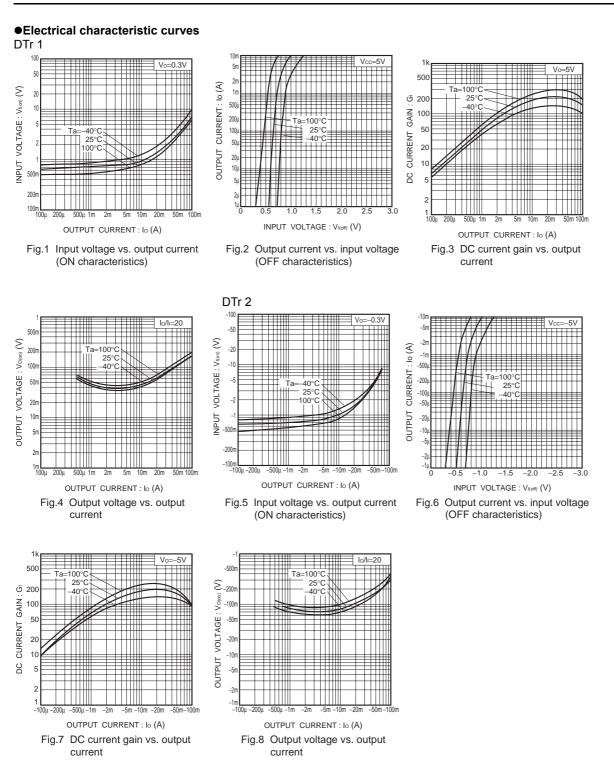
Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
luce of the sec	VI (off)	-	_	0.5		Vcc=5V, Io=100μA
Input voltage	VI (on)	1.3	-	-	V	Vo=0.3V, Io=5mA
Output voltage	Vo (on)	-	0.1	0.3	V	lo/l=5mA/0.25mA
Input current	h	-	_	1.8	mA	VI=5V
Output current	IO (off)	-	_	0.5	μA	Vcc=50V, VI=0V
DC current gain	Gi	80	-	_	_	Vo=5V, lo=10mA
Input resistance	R1	3.29	4.7	6.11	kΩ	_
Resistance ratio	R2/R1	8	10	12	_	_
Transition frequency	f⊤ *	-	250	_	MHz	Vce=10V, Ie=-5mA, f=100MHz

\*Transition frequency of the device

#### DTr 2

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
	VI (off)	-	-	-0.5	v	Vcc=-5V, lo=-100µA
Input voltage	VI (on)	-1.3	-	-	v	Vo=-0.3V, Io=-5mA
Output voltage	Vo (on)	-	-0.1	-0.3	V	lo/l=-5mA/-0.25mA
Input current	h	-	-	-1.8	mA	VI=-5V
Output current	IO (off)	-	-	-0.5	μA	Vcc=-50V, VI=0V
DC current gain	Gi	80	-	-	_	Vo=-5V, lo=-10mA
Input resistance	R1	3.29	4.7	6.11	kΩ	-
Resistance ratio	R2/R1	8	10	12	-	_
Transition frequency	f⊤ *	-	250	-	MHz	Vce=-10V, Ie=5mA, f=100MHz

\*Transition frequency of the device



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