

Emitter common (dual digital transistors)

EMA3 / UMA3N / FMA3A

●Features

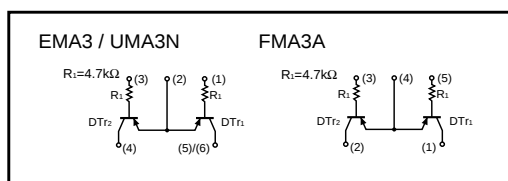
- 1) Two DTA143Ts in a EMT or UMT or SMT package.
- 2) Mounting cost and area can be cut in half.

●Structure

Epitaxial planar type PNP silicon transistor (Built-in resistor type.)

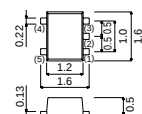
The following characteristics apply to both DTr1 and DTr2.

●Equivalent circuit



●External dimensions (Units : mm)

EMA3

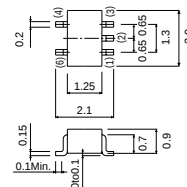


Each lead has same dimensions

ROHM : EMT5

Abbreviated symbol : A3

UMA3N



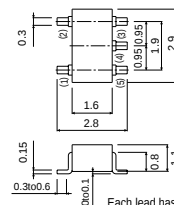
Each lead has same dimensions

ROHM : UMT5

EIAJ : SC-88A

Abbreviated symbol : A3

FMA3A



Each lead has same dimensions

ROHM : SMT5

EIAJ : SC-74A

Abbreviated symbol : A3

Transistors

●Absolute maximum ratings (Ta = 25°C)

Parameter		Symbol	Limits	Unit	
Collector-base voltage		V _{CB0}	−50	V	
Collector-emitter voltage		V _{CE0}	−50	V	
Emitter-base voltage		V _{EB0}	−5	V	
Collector current		I _C	−100	mA	
Collector power dissipation	EMA3, UMA3N	P _C	150 (TOTAL)	mW	*1
	FMA3A		300 (TOTAL)		
Junction temperature		T _j	150	°C	
Storage temperature		T _{stg}	−55→+150	°C	

*1 120mW per element must not be exceeded.

*2 200mW per element must not be exceeded.

●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CB0}	-50	—	—	V	I _C =-50μA
Collector-emitter breakdown voltage	BV _{CE0}	-50	—	—	V	I _C =-1mA
Emitter-base breakdown voltage	BV _{EB0}	-5	—	—	V	I _E =-50μA
Collector cutoff current	I _{CBO}	—	—	-0.5	μA	V _{CB} =-50V
DC current transfer ratio	h _{FE}	100	250	600	—	V _{CE} /I _C =-5V/-1mA
Emitter cutoff current	I _{EBO}	—	—	-0.5	μA	V _{EB} =-4V
Collector-emitter saturation voltage	V _{CE(sat)}	—	—	-0.3	V	I _C /I _B =-5mA/-0.25mA
Transition frequency	f _T	—	250	—	MHz	V _{CE} =-10mA, I _E =5mA, f=100MHz
Input resistance	R _i	3.29	4.7	6.11	kΩ	—

* Transition frequency of the device

●Packaging specifications

Type	Package	Taping		
	Code	T2R	TR	T148
	Basic ordering unit (pieces)	8000	3000	3000
EMA3		○	—	—
UMA3N		—	○	—
FMA3A		—	—	○

●Electrical characteristic curves

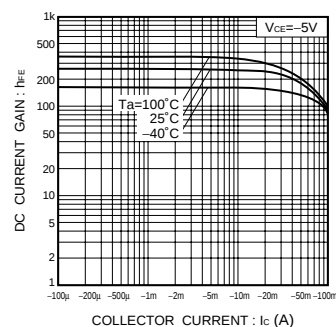


Fig.1 DC current gain vs. collector current

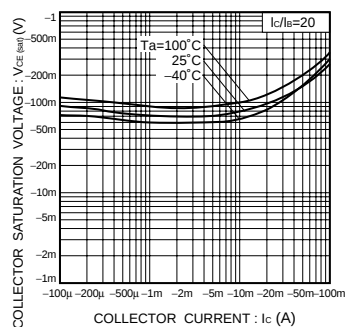


Fig.2 Collector-emitter saturation voltage vs. collector current