

Emitter common (dual digital transistors)

EMA3 / UMA3N / FMA3A

●Features

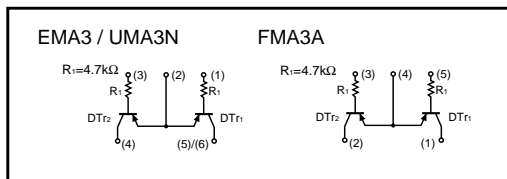
- 1) Two DTA143Ts in a EMT or UMT or SMT package.
- 2) Mounting cost and area can be cut in half.

●Structure

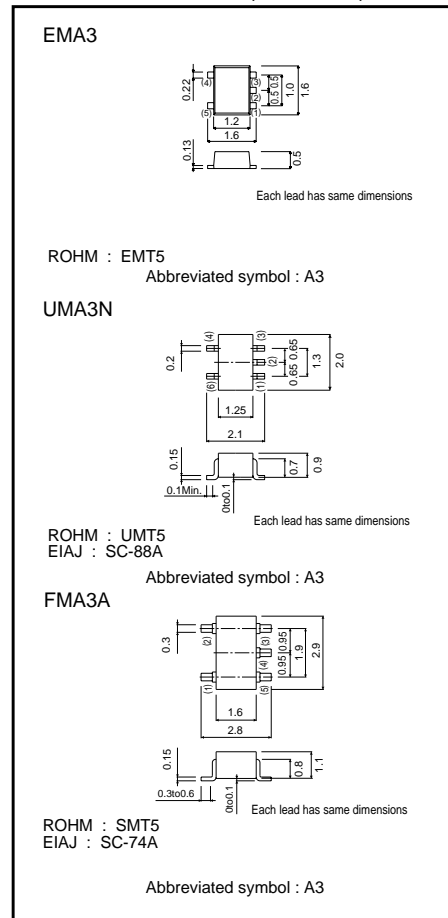
Epitaxial planar type PNP silicon transistor (Built-in resistor type.)

The following characteristics apply to both DTr1 and DTr2.

●Equivalent circuit



●External dimensions (Units : mm)



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	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

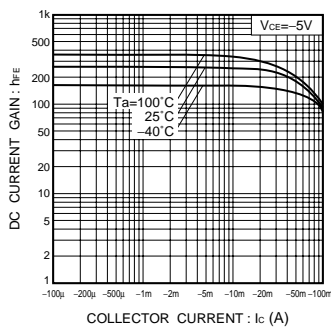


Fig.1 DC current gain vs. collector current

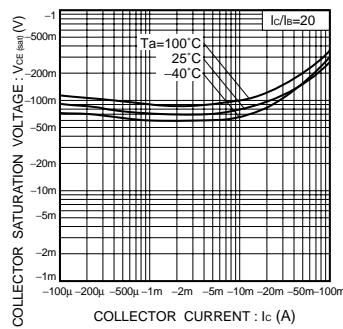


Fig.2 Collector-emitter saturation voltage vs. collector current