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.

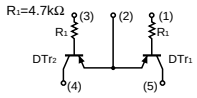
●Structure

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

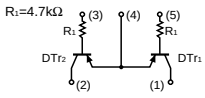
The following characteristics apply to both DTr_1 and DTr_2.

●Equivalent circuit

EMA3 / UMA3N

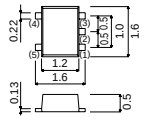


FMA3A



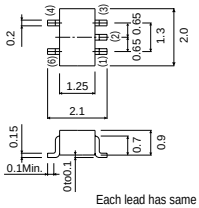
●External dimensions (Unit : mm)

EMA3



ROHM : EMT5
Abbreviated symbol : A3

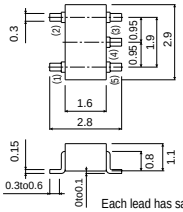
UMA3N



ROHM : UMT5
EIAJ : SC-88A

Abbreviated symbol : A3

FMA3A



ROHM : SMT5
EIAJ : SC-74A

Abbreviated symbol : A3

●Absolute maximum ratings (Ta=25°C)

Parameter		Symbol	Limits	Unit
Collector-base voltage		V_{CBO}	–50	V
Collector-emitter voltage		V_{CEO}	–50	V
Emitter-base voltage		V_{EBO}	–5	V
Collector current		I_C	–100	mA
Collector power dissipation	EMA3, UMA3N	P_C	150 (TOTAL)	mW ✻1
	FMA3A		300 (TOTAL)	mW ✻2
Junction temperature		Tj	150	˚C
Storage temperature		Tstg	–55 to +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_{CBO}	–50	–	–	V	I_C=–50μA
Collector-emitter breakdown voltage	BV_{CEO}	–50	–	–	V	I_C=–1mA
Emitter-base breakdown voltage	BV_{EBO}	–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}=–10V, I_E=5mA, f=100MHz ✻
Input resistance	R_1	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

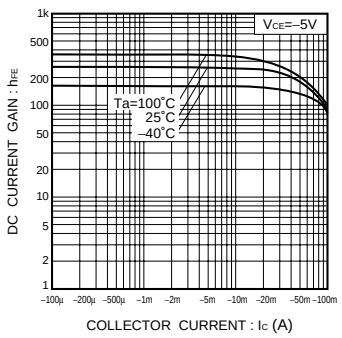


Fig.1 DC current gain vs. collector current

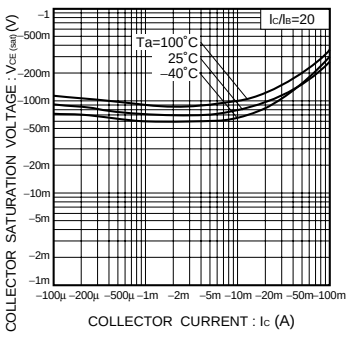


Fig.2 Collector-emitter saturation voltage vs. collector current

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