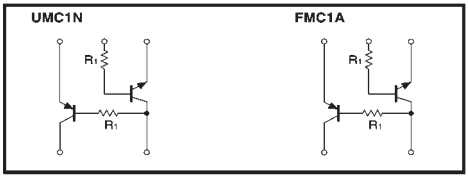
Power management (dual digital transistors)

UMC1N / FMC1A

●Features

1) Both the DTA143T chip and DTC143T chip in a UMT or SMT package.

●Circuit diagrams



●Absolute maximum ratings (Ta=25℃)

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	UMC1N	Pd	150 (TOTAL)	mW ＊1
	FMC1A		300 (TOTAL)	＊2
Junction temperature		Tj	150	℃
Storage temperature		Tstg	−55～+150	℃

＊1 120mW per element must not be exceeded. ＊2 200mW per element must not be exceeded.
PNP type negative symbols have been omitted.

●Package, marking, and packaging specifications

Part No.	UMC1N	FMC1A
Package	UMT5	SMT5
Marking	C1	C1
Code	TR	T148
Basic ordering unit (pieces)	3000	3000

●Electrical characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	50	—	—	V	I_C=50/−50 μA
Collector-emitter breakdown voltage	BV_{CEO}	50	—	—	V	I_C=1/−1mA
Emitter-base breakdown voltage	BV_{EBO}	5	—	—	V	I_E=50/−50 μA
Collector cutoff current	I_{CBO}	—	—	0.5	μA	V_{CB}=50/−50V
Emitter cutoff current	I_{EBO}	—	—	0.5	μA	V_{EB}=4/−4V
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	0.3	V	I_C=5/−5mA, I_B=0.25/−0.25mA
DC current transfer ratio	h_{FE}	100	250	600	—	V_{CE}=5/−5V, I_C=1/−1mA
Transition frequency	fT	—	250	—	MHz	V_{CE}=10V, F_E=−5mA, f=100MHz ＊
Input resistance	R_1	3.29	4.7	6.11	kΩ	—