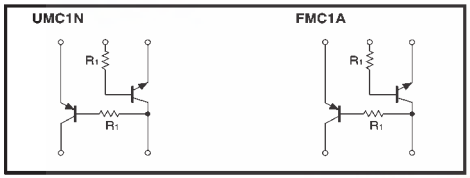
Power management (dual digital transistors)
UMC1N / FMC1A

●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		VCBO	50	V	
Collector-emitter voltage		VCEO	50	V	
Emitter-base voltage		VEBO	5	V	
Collector current		IC	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	BVCBO	50	—	—	V	IC=50/−50 μA	
Collector-emitter breakdown voltage	BVCEO	50	—	—	V	IC=1/−1mA	
Emitter-base breakdown voltage	BVEBO	5	—	—	V	IE=50/−50 μA	
Collector cutoff current	ICBO	—	—	0.5	μA	VCB=50/−50V	
Emitter cutoff current	IEBO	—	—	0.5	μA	VEB=4/−4V	
Collector-emitter saturation voltage	VCE(sat)	—	—	0.3	V	IC=5/−5mA, IB=0.25/−0.25mA	
DC current transfer ratio	hFE	100	250	600	—	VCE=5/−5V, IC=1/−1mA	
Transition frequency	fT	—	250	—	MHz	VCE=10V, FE=−5mA, f=100MHz	＊
Input resistance	R1	3.29	4.7	6.11	kΩ	—	

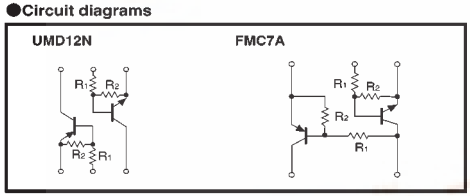
＊ Transition frequency of the device. PNP type negative symbols have been omitted.

(94S-815-AC143T)

Power management (dual digital transistors)
UMD12N / FMC7A

●Features
1）Both the DTA144E and DTC144E in a UMT or SMT package.

●Circuit diagrams



●Absolute maximum ratings（Ta=25℃）

Parameter		Symbol	Limits	Unit	
Supply voltage		VCC	50	V	
Input voltage		VIN	40	V	
			−10		
Output current		IC	100	mA	
		IO	30	mA	
Power dissipation	UMD12N	Pd	150（TOTAL）	mW	＊1
	FMC7A		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.	UMD12N	FMC7A
Package	UMT6	SMT5
Marking	D12	C7
Code	TR	T148
Basic ordering unit (pieces)	3000	3000

●Electrical characteristics（Ta=25℃）

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions	
Input voltage	VI (off)	—	—	0.5	V	VCC=5/−5V , IO=100/−100 μA	
	VI (on)	3	—	—	V	VO=0.3/−0.3V , IO=2/−2mA	
Output voltage	VO (on)	—	—	0.3	V	IO=10/−10mA, II=0.5/−0.5mA	
Input current	II	—	—	0.18	mA	VI=5/−5V	
Output current	IO (off)	—	—	0.5	μA	VCC=50/−50V , VI=0V	
DC current gain	GI	68	—	—	—	IO=5/−5mA , VO=5/−5V	
Transition frequency	fT	—	250	—	MHz	VCE=10/−10V , IE=−5/5mA, f=100MHz	＊
Input resistance	R1	32.9	47	61.1	kΩ	—	
Resistance ratio	R2/R1	0.8	1	1.2	—	—	

＊ Transition frequency of the device. PNP type negative symbols have been omitted.

(96-475-AC144E)