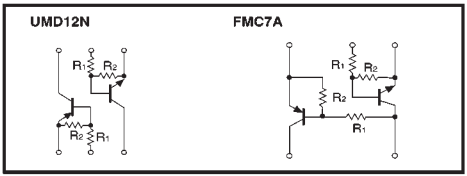
Power management (dual digital transistors)

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		V_{CC}	50	V
Input voltage		V_{IN}	40	V
			−10	
Output current		I_C	100	mA
		I_O	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	$V_{I(off)}$	—	—	0.5	V	V_{CC}=5/−5V , I_O=100/−100 μA
	$V_{I(on)}$	3	—	—	V	V_O=0.3/−0.3V , I_O=2/−2mA
Output voltage	$V_{O(on)}$	—	—	0.3	V	I_O=10/−10mA, I_I=0.5/−0.5mA
Input current	I_I	—	—	0.18	mA	V_I=5/−5V
Output current	$I_{O(off)}$	—	—	0.5	μA	V_{CC}=50/−50V , V_I=0V
DC current gain	G_I	68	—	—	—	I_O=5/−5mA , V_O=5/−5V
Transition frequency	f_T	—	250	—	MHz	V_{CE}=10/−10V , I_E=−5/5mA, f=100MHz ＊
Input resistance	R_1	32.9	47	61.1	kΩ	—
Resistance ratio	R_2/R_1	0.8	1	1.2	—	—