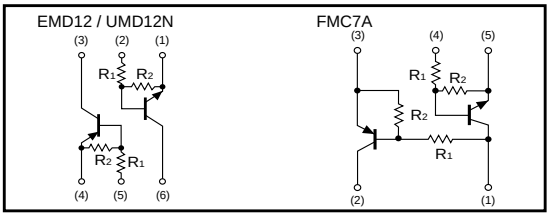
Power management (dual digital transistors)

EMD12 / UMD12N / FMC7A

●Features

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

●Equivalent circuit



●Package, marking, and packaging specifications

Type	EMD12	UMD12N	FMC7A
Package	EMT6	UMT6	SMT5
Marking	D12	D12	C7
Code	T2R	TR	T148
Basic ordering unit (pieces)	8000	3000	3000

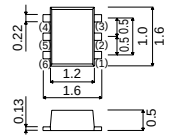
●Absolute maximum ratings (Ta = 25°C)

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	EMD12 / UMD12N	Pd	150(TOTAL)	mW ∗1
	FMC7A		300(TOTAL)	∗2
Junction temperature		Tj	150	°C
Storage temperature		Tstg	–55~+150	°C

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

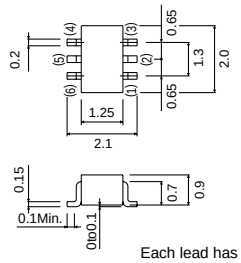
●External dimensions (Units : mm)

EMD12



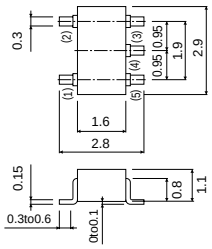
ROHM : EMT6 Each lead has same dimensions

UMD12N



ROHM : UMT6 Each lead has same dimensions
EIAJ : SC-88

FMC7A



ROHM : SMT5 Each lead has same dimensions
EIAJ : SC-74A

●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	$V_{I\,(off)}$	–	–	0.5	V	V_{CC}=5/–5V, I_O=100/–100µA
	$V_{I\,(on)}$	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	–	–

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