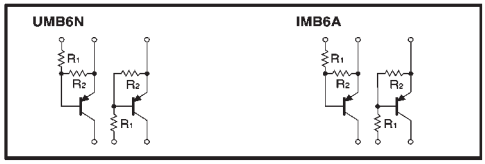
General purpose (dual digital transistors)
UMB6N / IMB6A

● **Features**
1) Two DTA144E chips 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_O	50	mA	
Power dissipation	UMB6N	Pd	150 (TOTAL)	mW	∗1
	IMB6A		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.

● **Package, marking, and packaging specifications**

Part No.	UMB6N	IMB6A
Package	UMT6	SMT6
Marking	B6	B6
Code	TR	T110
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}=−5V , I_O=−100 μA
	$V_{I\,(on)}$	−3.0	—	—		V_O=−0.3V , I_O=−2mA
Output voltage	$V_{O\,(on)}$	—	−0.1	−0.3	V	I_O=−10mA , I_I=−0.5mA
Input current	I_I	—	—	−0.18	mA	V_I=−5V
Output current	$I_{O\,(off)}$	—	—	−0.5	μA	V_{CC}=−50V , V_I=0V
DC current gain	G_I	68	—	—	—	I_O=−5mA , V_O=−5V
Input resistance	R_1	32.9	47	61.1	kΩ	—
Resistance ratio	R_2/R_1	0.8	1.0	1.2	—	—
Transition frequency	f_T	—	250	—	MHz	V_{CE}=−10V , I_E=5mA, f=100MHz ∗

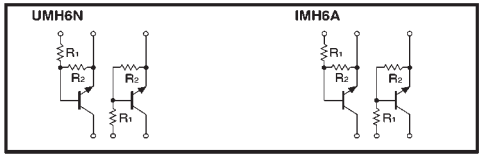
∗ Transition frequency of the divice.

(94S-846-A144E)

General purpose (dual digital transistors)
UMH6N / IMH6A

● **Features**
1) Two DTC144E chips in a 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_O	30	mA	
Power dissipation	UMH6N	Pd	150 (TOTAL)	mW	∗1
	IMH6A		300 (TOTAL)		∗2
Junction temperature		Tj	150	℃	
Storage temperature		Tstg	−50～+150	℃	

∗1 120mW per element must not be exceeded.
∗2 200mW per element must not be exceeded.

● **Package, marking, and packaging specifications**

Part No.	UMH6N	IMH6A
Package	UMT6	SMT6
Marking	H6	H6
Code	TR	T108
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}=5V , I_O=100 μA
	$V_{I\,(on)}$	3	—	—		V_O=0.3V , I_O=2mA
Output voltage	$V_{O\,(on)}$	—	0.1	0.3	V	I_O/I_I=10mA/0.5mA
Input current	I_I	—	—	0.18	mA	V_I=5V
Output current	$I_{O\,(off)}$	—	—	0.5	μA	V_{CC}=50V , V_I=0V
DC current gain	G_I	68	—	—	—	I_O/V_O=5mA/5V
Input resistance	R_1	32.9	47	61.1	kΩ	—
Resistance ratio	R_2/R_1	0.8	1	1.2	—	—
Transition frequency	f_T	—	250	—	MHz	V_{CE}=10V , I_E=−5mA, f=100MHz ∗

∗ Transition frequency of the device.

(96-484-C144E)