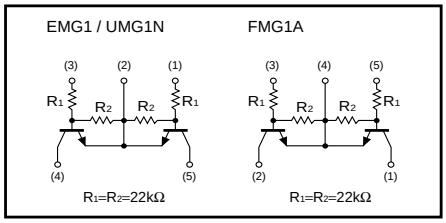
General purpose (dual digital transistors)

EMG1 / UMG1N / FMG1A

●Features

1) Two DTC124E chips in a EMT or UMT or SMT package.

●Circuit schematic



●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_O	30	mA
Collector current		$I_{C(MAX)}$	100	mA
Power dissipation	EMG1 / UMG1N	Pd	150(TOTAL)	mW *1
	FMG1A		300(TOTAL)	*2
Junction temperature		Tj	150	°C
Storage temperature		Tstg	−55 to +150	°C

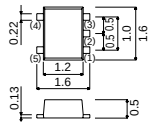
*1 120mW per element must not be exceeded.
*2 200mW per element must not be exceeded.

●Package, marking, and packaging specifications

Type	EMG1	UMG1N	FMG1A
Package	EMT5	UMT5	SMT5
Marking	G1	G1	G1
Code	T2R	TR	T148
Basic ordering unit (pieces)	8000	3000	3000

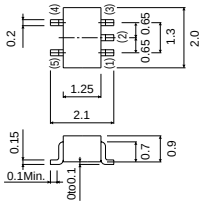
●External dimensions (Unit : mm)

EMG1



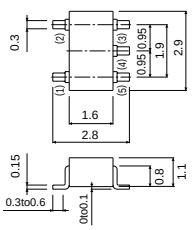
ROHM : EMT5
Each lead has same dimensions

UMG1N



ROHM : UMT5
EIAJ : SC-88A
Each lead has same dimensions

FMG1A



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

●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	$V_{I\,(off)}$	–	–	0.5	V	V_{CC}=5V, I_O=100μA
	$V_{I\,(on)}$	3	–	–		V_O=0.2V, I_O=5mA
Output voltage	$V_{O\,(on)}$	–	0.1	0.3	V	I_O=10mA, I_I=0.5mA
Input current	I_I	–	–	0.36	mA	V_I=5V
Output current	$I_{O\,(off)}$	–	–	0.5	μA	V_{CC}=50V, V_I=0V
DC current gain	G_I	56	–	–	–	V_O=5V, I_O=5mA
Transition frequency	f_T	–	250	–	MHz	V_{CE}=10V, I_E= –5mA , f=100MHz *
Input resistance	R_1	15.4	22	28.6	kΩ	–
Resistance ratio	R_2 / R_1	0.8	1	1.2	–	–

* Characteristics of built-in transistor

●Electrical characteristics curves

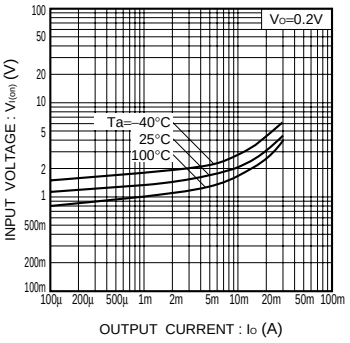


Fig.1 Input voltage vs. output current (ON characteristics)

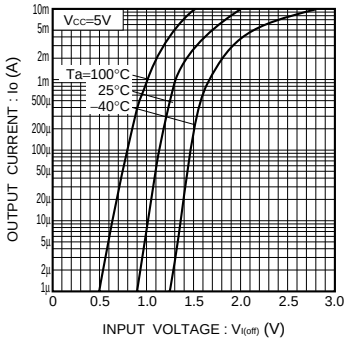


Fig.2 Output current vs. input voltage (OFF characteristics)

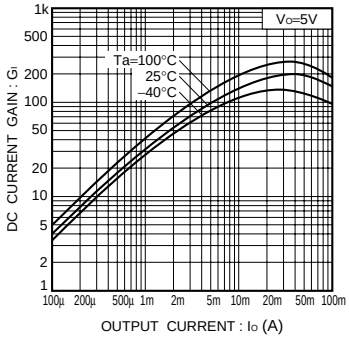


Fig.3 DC current gain vs. output current

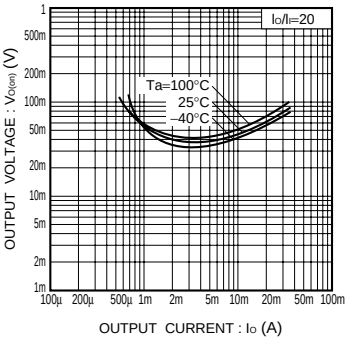


Fig.4 Output voltage vs. output current

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