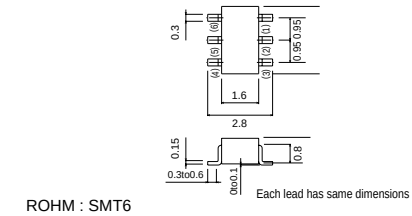
IMD14 General purpose (dual digital transistors)

IMD14

●Features

1) Two 500 mA digital transistor chips in a SMT package.
2) The drive transistors are independent, eliminating interference.

●External dimensions (Unit : mm)



ROHM : SMT6
EIAJ : SC-74

●Absolute maximum ratings (Ta=25°C)

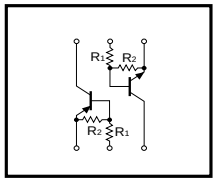
Parameter	Symbol	Limits	Unit	
Supply voltage	V_{CC}	50	V	
Input voltage	V_{IN}	5	V	
		–5		
Output current	IC	500	mA	
Power dissipation	Pd	300 (TOTAL)	mW	*
Junction temperature	Tj	150	°C	
Storage temperature	Tstg	–55 to +150	°C	

*200mW per element must not be exceeded. PNP type negative symbols have been omitted.

●Package, marking, and packaging specifications

Part No.	IMD14
Package	SMT6
Marking	D14
Code	T108
Basic ordering unit (pieces)	3000

●Equivalent circuit



●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	$V_{I(off)}$	–	–	0.3	V	V_{CC}=5V , I_O=100μA
	$V_{I(on)}$	1.1	–	–		V_O=0.3V , I_O=50mA
Output voltage	$V_{O(on)}$	–	–	0.3	V	I_O/I_I=100mA/5mA
Input current	I_I	–	–	17	mA	V_I=3V
Output current	$I_{O(off)}$	–	–	0.5	μA	V_{CC}=50V , V_I=0V
DC current gain	G_I *1	82	–	–	–	I_O=100mA , V_O=5V *1
Transition frequency	f_T *2	–	250	–	MHz	V_{CE}=10V , I_E=–50mA , f=100MHz *2
Input resistance	R_1	154	220	286	Ω	–
Resistance ratio	R_2/R_1	36.3	45.5	54.6	–	–

*1 Measured using pulse current *2 Transition frequency of the device
PNP type negative symbols have been omitted.

●**Electrical characteristic curves**

DTr1(NPN)

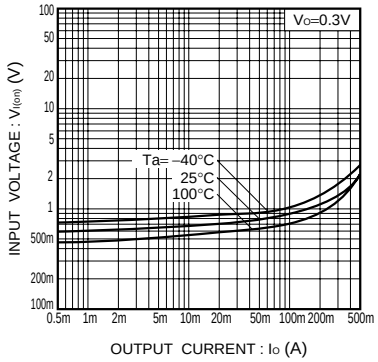


Fig.1 Input voltage vs. Output current (ON characteristics)

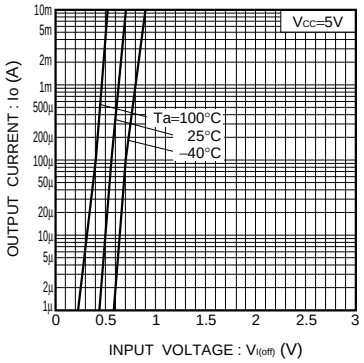


Fig.2 Output current vs. Input voltage (OFF characteristics)

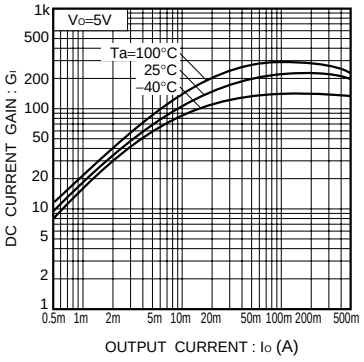


Fig.3 DC current gain vs. Output current characteristics

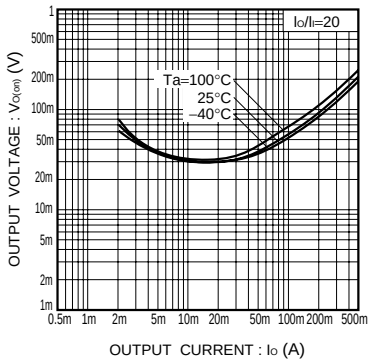


Fig.4 Output voltage vs. Output current characteristics

DTr2(PNP)

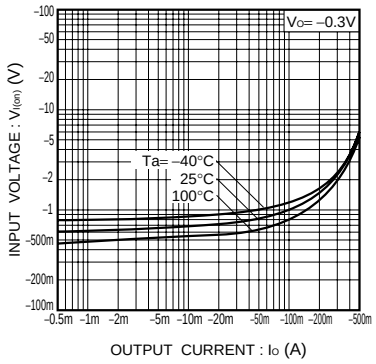


Fig.5 Input voltage vs. Output current (ON characteristics)

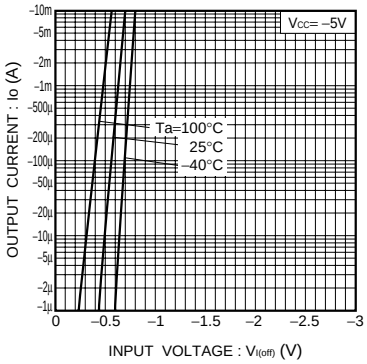


Fig.6 Output current vs. Input voltage (OFF characteristics)

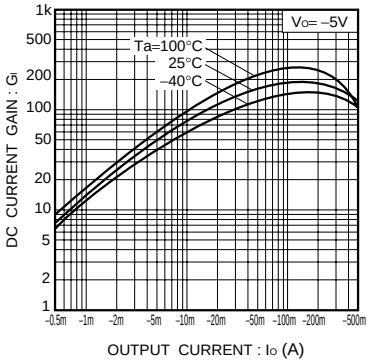


Fig.7 DC current gain vs. Output current characteristics

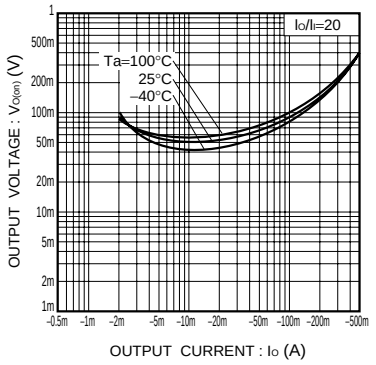


Fig.8 Output voltage vs. Output current characteristics

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