

# General purpose (dual digital transistors)

## IMH20

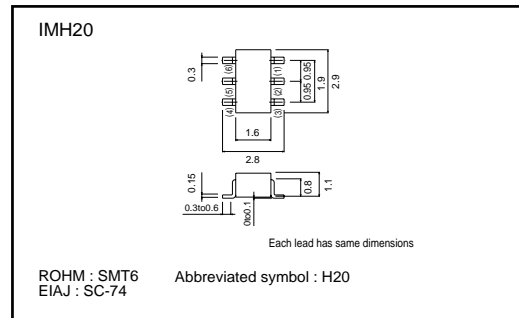
### ●Features

- 1) Two DTC323T chips in a SMT package.
- 2) Mounting possible with SMT3 automatic mounting machines.
- 3) Transistor elements are independent, eliminating interference.

### ●Structure

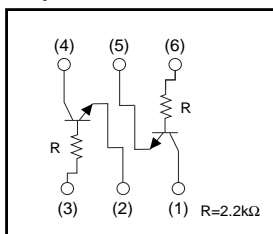
Epitaxial planar type  
NPN silicon transistor

### ●External dimensions (Unit : mm)



The following characteristics apply to both DTr<sub>1</sub> and DTr<sub>2</sub>.

### ●Equivalent circuit



### ●Packaging specifications

Type	Package	Taping
	Code	T110
	Basic ordering unit (pieces)	3000
IMH20		○

Transistors

● Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V <sub>CB0</sub>	30	V
Collector-emitter voltage	V <sub>CE0</sub>	15	V
Emitter-base voltage	V <sub>EB0</sub>	5	V
Collector current	I <sub>c</sub>	600	mA
Collector power dissipation	P <sub>c</sub>	300 (TOTAL)	mW *
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

\* 200mW per element must not be exceeded.

● Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV <sub>CB0</sub>	30	-	-	V	I <sub>c</sub> =50μA
Collector-emitter breakdown voltage	BV <sub>CE0</sub>	15	-	-	V	I <sub>c</sub> =1mA
Emitter-base breakdown voltage	BV <sub>EB0</sub>	5	-	-	V	I <sub>E</sub> =50μA
Collector cutoff current	I <sub>CB0</sub>	-	-	0.5	μA	V <sub>CB</sub> =20V
Emitter cutoff current	I <sub>EB0</sub>	-	-	0.5	μA	V <sub>EB</sub> =4V
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	-	40	80	mV	I <sub>c</sub> /I <sub>b</sub> =50mA/2.5mA
DC current transfer ratio	h <sub>FE</sub>	100	250	600	-	I <sub>c</sub> =50mA, V <sub>CE</sub> =5V
Input resistance	R <sub>i</sub>	1.64	2.2	2.86	kΩ	-
Transition frequency	f <sub>T</sub>	-	200	-	MHz	V <sub>CE</sub> =10V, I <sub>E</sub> =-50mA, f=100MHz *
Output on resistance	R <sub>on</sub>	-	0.65	-	Ω	V <sub>CE</sub> =7V, I <sub>E</sub> =1kΩ, f=1KHz

\* Transition frequency of the device

● Electrical characteristic curves

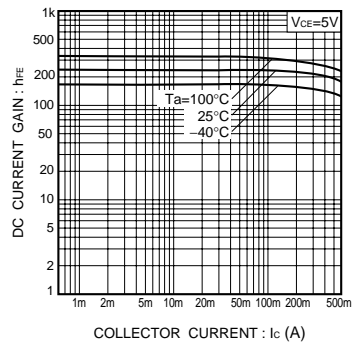


Fig.1 DC current gain vs. collector current

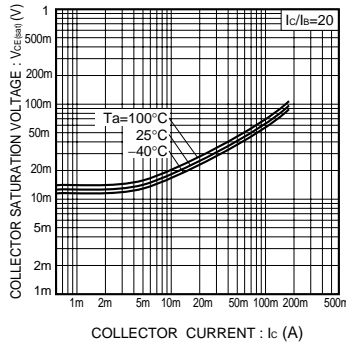


Fig.2 Collector-emitter saturation voltage vs. collector current

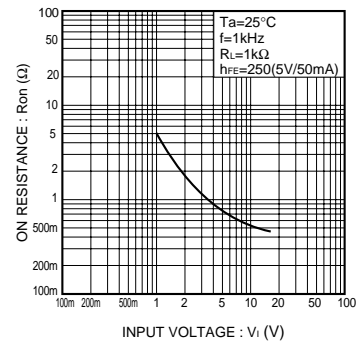


Fig.3 Output on resistance vs. input voltage

## Transistors

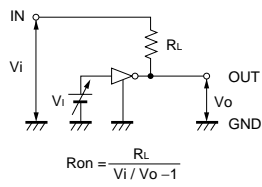


Fig.4 Output on resistance test circuit

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