Dual digital transistors

IMH21

Features

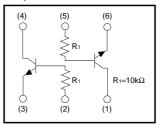
In addition to the features of regular digital transistors.

- 1) Low saturation voltage, typically VCE (sat) =40mV at Ic / IB=50mA / 2.5mA, makes these transistors ideal for muting circuits.
- 2) These transistors can be used at high current levels, lc=600mA.
- 3) Two DTC614T chips in a SMT package.

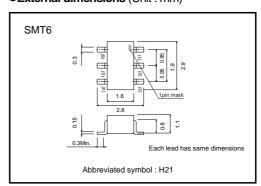
●Structure

NPN digital transistor (Built-in resistor type)

●Equivalent circuit



●External dimensions (Unit : mm)



● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V _{CBO}	20	V
Collector-emitter voltage	Vceo	20	V
Emitter-base voltage	V _{EBO}	12	V
Collector current	lc	600	mA
Collector power dissipation	Pc	300(TOTAL)	mW *
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C

^{* 200}mW per element must not be exceeded.

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Collector-base breakdown voltage	ВУсво	20	_	_	٧	I _C =50μA
Collector-emitter breakdown voltage	BVceo	20	_	_	٧	I _C =1mA
Emitter-base breakdown voltage	BV _{EBO}	12	_	_	٧	I _E =50μA
Collector cutoff current	Ісво	_	_	0.5	μΑ	V _{CB} =20V
Emitter cutoff current	I _{EBO}	_	_	0.5	μΑ	V _{EB} =12V
Collector-emitter saturation voltage	V _{CE} (sat)	_	40	150	mV	I _C / I _B =50mA / 2.5mA
DC current transfer ratio	h _{FE}	820	_	2700	_	V _{CE} =5V, I _C =50mA
Input resistance	R ₁	7	10	13	kΩ	_
Transition frequency	f⊤	_	150	_	MHz	V _{CE} =10V, I _E =-50mA, f=100MHz *
Output "ON" resistance	Ron	_	0.9	_	Ω	VI=5V, R _L =1kΩ, f=1KHz

^{*}Transition frequency of the device.

●Packaging specifications and hFE

Туре	Package	SMT6
	Packaging type	Taping
	Code	T110
	Basic ordering unit (pieces)	3000
IMH21		0

•Electrical characteristic curves

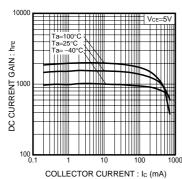


Fig.1 DC Current Gain vs. Collector Current

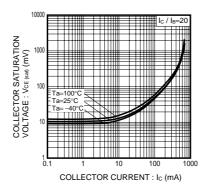


Fig.2 Collector-Emitter Saturation Voltage vs. Collector Current

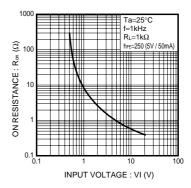


Fig.3 "ON" resistance vs. Input Voltage

●Ron measurement circuit

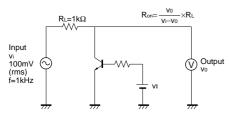


Fig.4 Output "ON" resistance (Ron) measurement circuit

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