

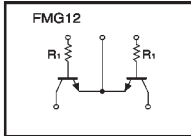
# Emitter common(dual digital transistors)

## FMG12

### ●Features

- 1) Includes two DTC323T transistors in a single SMT package.
- 2) Low  $V_{CE(sat)}$ . Ideal for muting circuit.
- 3) Can be used with  $I_c = 600$  mA

### ●Circuit diagram



### ●Absolute maximum ratings ( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Limits	Unit
Collector-base voltage	$V_{CBO}$	30	V
Collector-emitter voltage	$V_{CEO}$	15	V
Emitter-base voltage	$V_{EB0}$	5	V
Collector current	$I_c$	600	mA
Collector power dissipation	$P_c$	300 (TOTAL)	mW *
Junction temperature	$T_J$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	$-55 \sim +150$	$^\circ\text{C}$

\* 200mW per element must not be exceeded.

### ●Package, marking, and packaging specifications

Part No.	FMG12
Package	SMT6
Marking	G12
Code	T108
Basic ordering unit (pieces)	3000

### ●Electrical characteristics ( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CBO}$	30	—	—	V	$I_c=50 \mu\text{A}$
Collector-emitter breakdown voltage	$BV_{CEO}$	15	—	—	V	$I_c=1\text{mA}$
Emitter-base breakdown voltage	$BV_{EB0}$	5	—	—	V	$I_E=50 \mu\text{A}$
Collector cutoff current	$I_{CBO}$	—	—	0.5	$\mu\text{A}$	$V_{CB}=20\text{V}$
Emitter cutoff current	$I_{EB0}$	—	—	0.5	$\mu\text{A}$	$V_{EB}=4\text{V}$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	0.04	0.08	V	$I_c/I_E=50\text{mA}/2.5\text{mA}$
DC current transfer ratio	$h_{FE}$	100	250	600	—	$V_{CE}=5\text{V}$ , $I_c=50\text{mA}$ *1
Transition frequency	$f_T$	—	200	—	MHz	$V_{CE}=10\text{V}$ , $I_E=-50\text{mA}$ , $f=100\text{MHz}$ *2
Output ON resistance	$R_{on}$	—	0.55	—	$\Omega$	$V_I=7\text{V}$ , $R_L=1\text{k}\Omega$ , $f=1\text{kHz}$
Input resistance	$R_1$	1.54	2.2	2.86	k $\Omega$	—

\*1 Measured using pulse current \*2 Transition frequency of mounted transistor

(96-417-C323T)

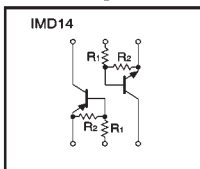
# General purpose (dual digital transistors)

## IMD14

### ●Features

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

### ●Circuit diagram



### ●Absolute maximum ratings ( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Limits	Unit
Supply voltage	$V_{CC}$	50	V
Input voltage	$V_{IN}$	5 -5	V
Output current	$I_c$	500	mA
Power dissipation	$P_d$	300 (TOTAL)	mW *
Junction temperature	$T_J$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	$-55 \sim +150$	$^\circ\text{C}$

\* 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

### ●Electrical characteristics ( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	$V_{I(on)}$	—	—	0.3	V	$V_{CC}=5\text{V}$ , $I_c=100 \mu\text{A}$
	$V_{I(off)}$	1.1	—	—	V	$V_o=0.3\text{V}$ , $I_c=1\text{mA}$
Output voltage	$V_{O(on)}$	—	—	0.3	V	$I_o/I_i=100\text{mA}/5\text{mA}$
Input current	$I_i$	—	—	17	mA	$V_i=3\text{V}$
Output current	$I_o$ (eff)	—	—	0.5	$\mu\text{A}$	$V_{CC}=50\text{V}$ , $V_i=0\text{V}$
DC current gain	$G_{i*1}$	82	—	—	—	$I_o=100\text{mA}$ , $V_o=5\text{V}$ *1
Transition frequency	$f_T$ *2	—	250	—	MHz	$V_{CE}=10\text{V}$ , $I_E=-50\text{mA}$ , $f=100\text{MHz}$ *2
Input resistance	$R_1$	154	220	286	$\Omega$	—
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.

(96-470-IMD14)