

General purpose transistor (isolated dual transistors)

IMT17

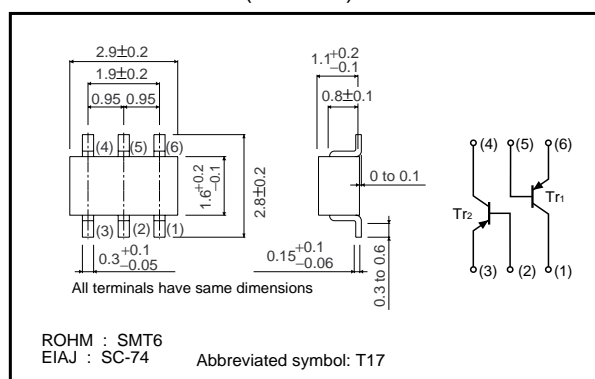
●Applications

General purpose small signal amplifier

●Features

- 1) Two 2SA1036K chips in an SMT package.
- 2) Same size as SMT3 package, so same mounting machine can be used for both.
- 3) Transistor elements are independent, eliminating interference.
- 4) High collector current. $I_c = -500\text{mA}$
- 5) Mounting cost, and area, are reduced by one half.

●External dimensions (Unit : mm)



●Structure

Epitaxial planar type
PNP silicon transistor

The following characteristics apply to both Tr₁ and Tr₂.

●Packaging specifications

Part No.	Packaging type	Taping
		Code
	Basic ordering unit (pieces)	3000
IMT17		○

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	-60	V
Collector-emitter voltage	V_{CEO}	-50	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_c	-500	mA
Power dissipation	P_d	300(TOTAL)	mW *
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-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_{CBO}	-60	-	-	V	$I_c = -100\mu\text{A}$
Collector-emitter breakdown voltage	BV_{CEO}	-50	-	-	V	$I_c = -1\text{mA}$
Emitter-base breakdown voltage	BV_{EBO}	-5	-	-	V	$I_E = -100\mu\text{A}$
Collector cutoff current	I_{CBO}	-	-	-0.1	μA	$V = -30\text{V}$
Emitter cutoff current	I_{EBO}	-	-	-0.1	μA	$V = -4\text{V}$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	-0.6	V	$I_c/I_E = -500\text{mA}/-50\text{mA}$
DC current transfer ratio	h_{FE}	120	-	390	-	$V_{CE} = -3\text{V}, I_c = -100\text{mA}$ *
Transition frequency	f_T	-	200	-	MHz	$V_{CE} = -5\text{V}, I_E = 20\text{mA}, f = 100\text{MHz}$
Output capacitance	C_{ob}	-	7	-	pF	$V_{CB} = -10\text{V}, I_E = 0\text{A}, f = 1\text{MHz}$

* Measured using pulse current.

Transistors

●Electrical characteristic curves

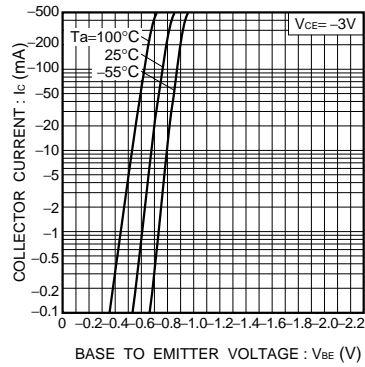


Fig.1 Grounded emitter propagation characteristics

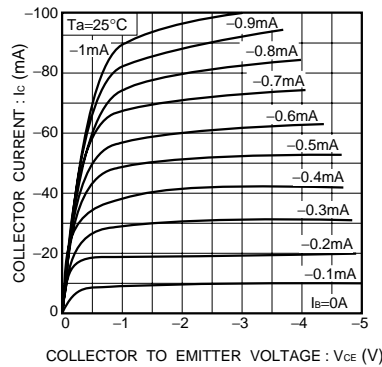


Fig.2 Grounded emitter output characteristics (I)

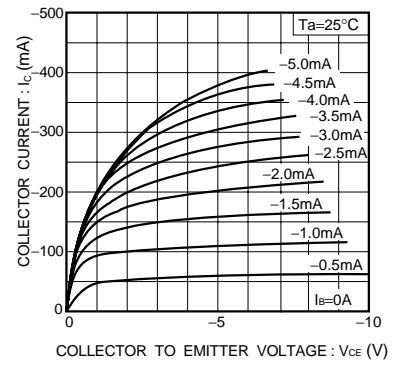


Fig.3 Grounded emitter output characteristics (II)

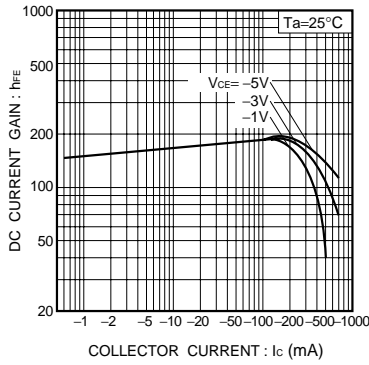


Fig.4 DC current gain vs. collector current (I)

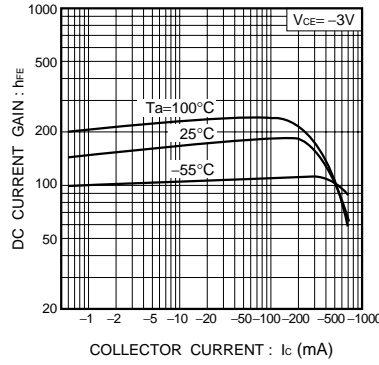


Fig.5 DC current gain vs. collector current (II)

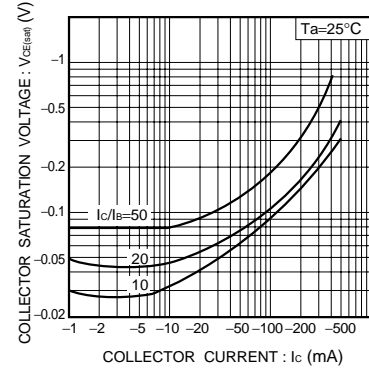


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

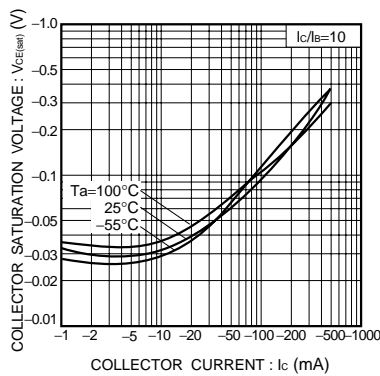


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

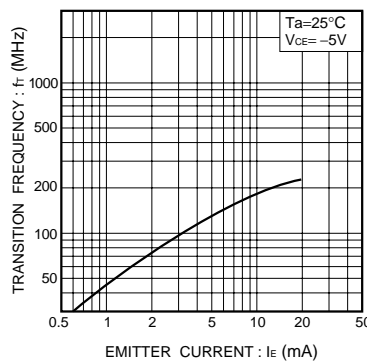


Fig.8 Gain bandwidth product vs. emitter current

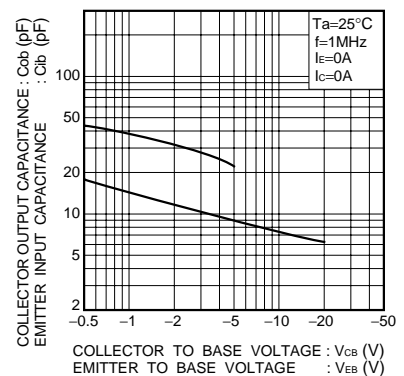


Fig.9 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

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