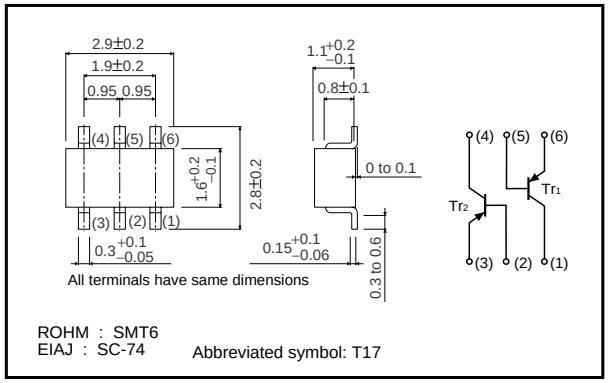
General purpose transistor (isolated dual transistors)

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 = –500mA
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 Tr_1 and Tr_2.

●Packaging specifications

	Packaging type	Taping
	Code	T110
Part No.	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	Pd	300(TOTAL)	mW	*
Junction temperature	Tj	150	°C	
Storage temperature	Tstg	–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= –100μA
Collector-emitter breakdown voltage	BV_{CEO}	–50	–	–	V	I_C= –1mA
Emitter-base breakdown voltage	BV_{EBO}	–5	–	–	V	I_E= –100μA
Collector cutoff current	I_{CBO}	–	–	–0.1	μA	V= –30V
Emitter cutoff current	I_{EBO}	–	–	–0.1	μA	V= –4V
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	–	–0.6	V	I_C/I_B= –500mA/ –50mA
DC current transfer ratio	h_{FE}	120	–	390	–	V_{CE}= –3V, I_C= –100mA *
Transition frequency	f_T	–	200	–	MHz	V_{CE}= –5V, I_E= 20mA, f= 100MHz
Output capacitance	Cob	–	7	–	pF	V_{CB}= –10V, I_E= 0A, f= 1MHz

* Measured using pulse current.

●Electrical characteristic curves

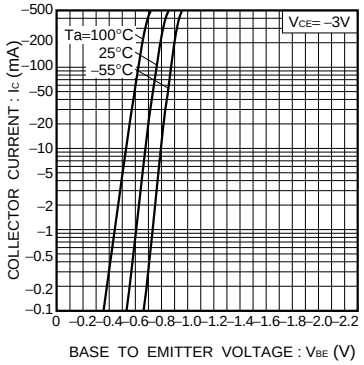


Fig.1 Grounded emitter propagation characteristics

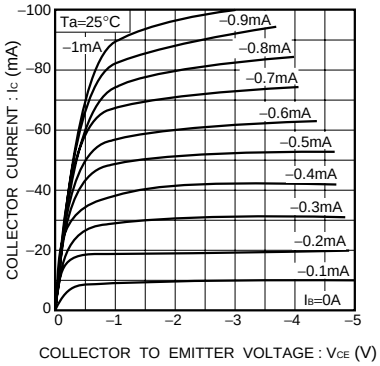


Fig.2 Grounded emitter output characteristics (I)

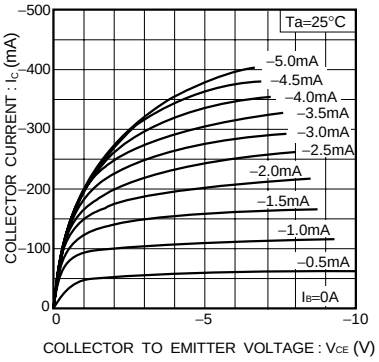


Fig.3 Grounded emitter output characteristics (II)

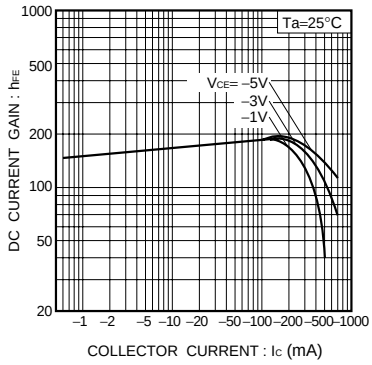


Fig.4 DC current gain vs. collector current (I)

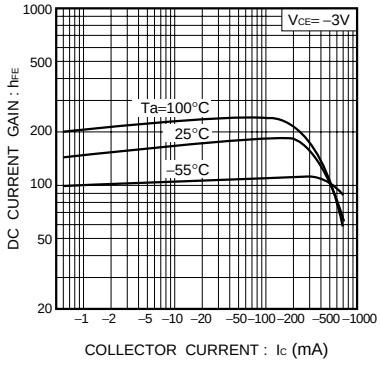


Fig.5 DC current gain vs. collector current (II)

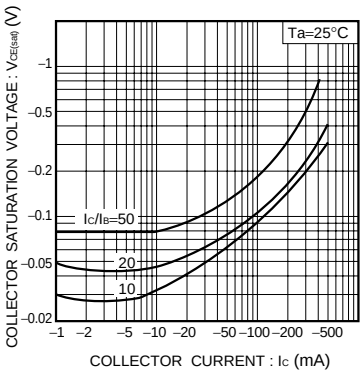


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

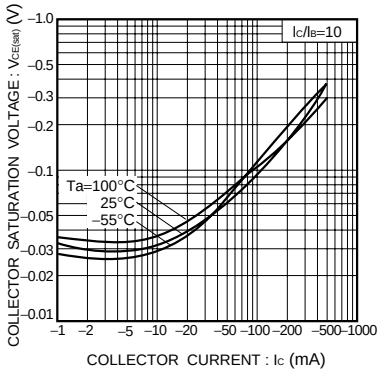


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

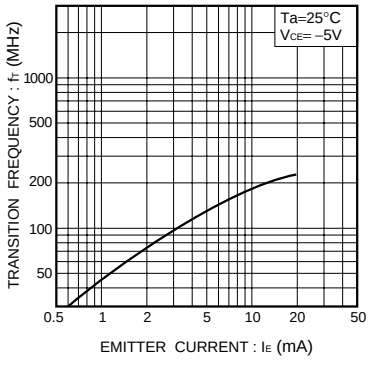


Fig.8 Gain bandwidth product vs. emitter current

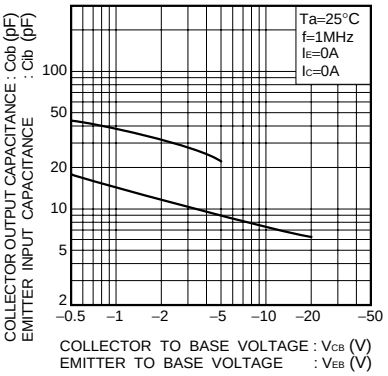


Fig.9 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

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