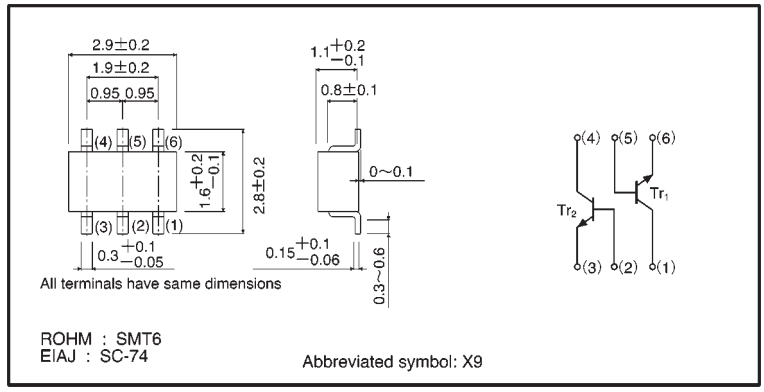
General purpose transistor (isolated dual transistors)

IMX9

●Features

1) Two 2SD2114K chips in a SMT package.
2) Mounting possible with SMT3 automatic mounting machine.
3) Transistor elements are independent, eliminating interference.
4) Mounting cost and area can be cut in half.

●External dimensions (Units: mm)



●Structure

Epitaxial planar type
NPN silicon transistor

The following characteristics apply to both Tr_1 and Tr_2.

●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	℃	
Storage temperature	Tstg	−55~+150	℃	

* 200mW per element must not be exceeded.

(96-517-C107)

●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	60	—	—	V	I_C=100 μA
Collector-emitter breakdown voltage	BV_{CEO}	50	—	—	V	I_C=1mA
Emitter-base breakdown voltage	BV_{EBO}	5	—	—	V	I_E=100 μA
Collector cutoff current	I_{CBO}	—	—	0.1	μA	V_{CB}=30V
Emitter cutoff current	I_{EBO}	—	—	0.1	μA	V_{EB}=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	—	250	—	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.

●Packaging specifications

	Packaging type	Taping
	Code	T110
Part No.	Basic ordering unit (pieces)	3000
IMX17		○

●Electrical characteristic curves

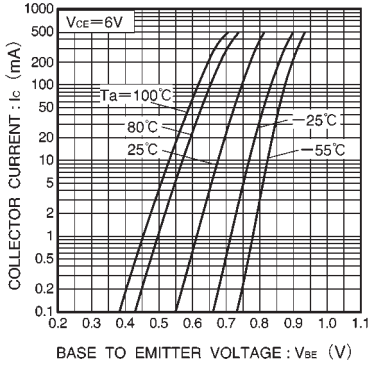


Fig.1 Grounded emitter propagation characteristics

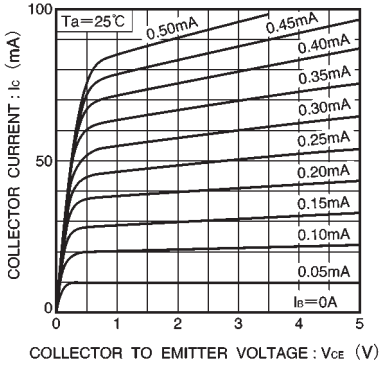


Fig.2 Grounded emitter output characteristics (Ⅰ)

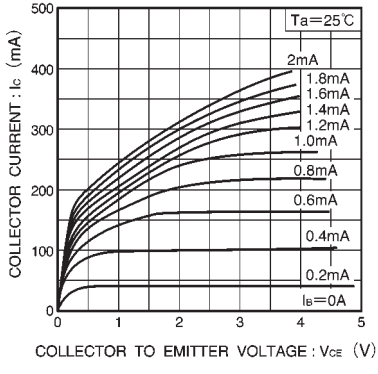


Fig.3 Grounded emitter output characteristics (Ⅱ)

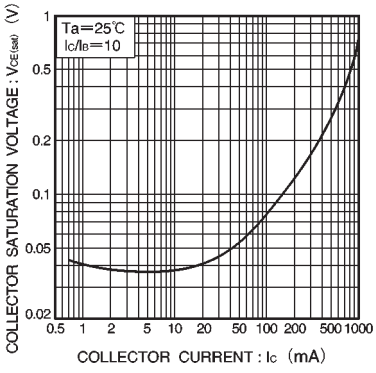


Fig.4 Collector-emitter saturation voltage vs. collector current

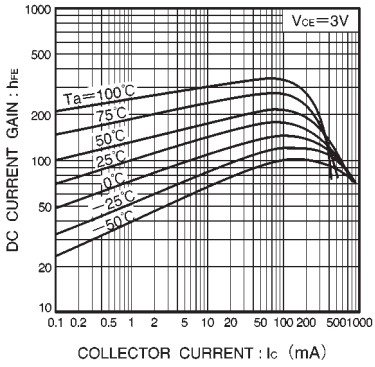


Fig.5 DC current gain vs. collector current

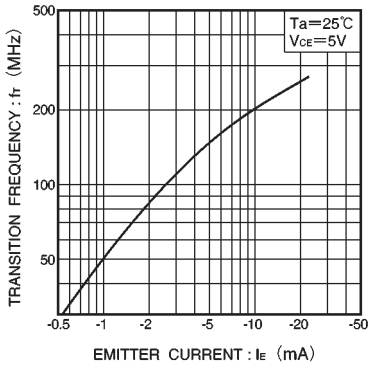


Fig.6 Gain bandwidth product vs. emitter current

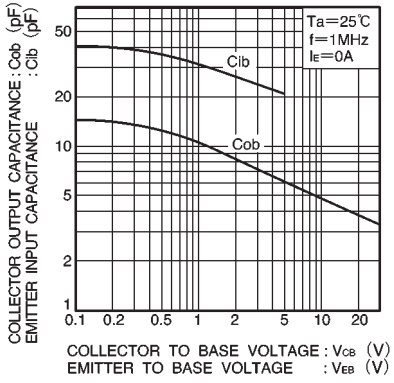


Fig.7 Input/output capacitance vs. voltage