General purpose transistor (isolated dual transistors) IMX25

Features

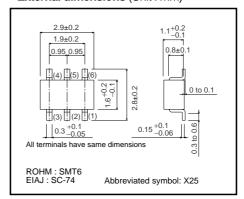
- 1) Two 2SD2704K chips in a SMT package.
- 2) Mounting possible with SMT3 automatic mounting machine.
- 3) Transistor elements are independent, eliminating interference.
- 4) Mounting cost and area can be cut in half.

Structure

Epitaxial planar type NPN silicon transistor

The following characteristics apply to both Tr₁ and Tr₂.

●External dimensions (Unit:mm)

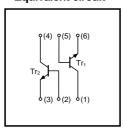


● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	Vсво	50	V
Collector-emitter voltage	Vceo	20	V
Emitter-base voltage	Vево	25	V
Collector current	Ic	300	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.

●Equivalent circuit



●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Collector-base breakdown voltage	ВУсво	50	_	_	V	Ic=10μA
Collector-emitter breakdown voltage	BVceo	20	_	_	V	Ic=1mA
Emitter-base breakdown voltage	ВУево	25	_	_	V	Iε=10μA
Collector cutoff current	Ісво	_	_	0.1	μΑ	Vcb=50V
Emitter cutoff current	ІЕВО	-	_	0.1	μΑ	V _{EB} =25V
Collector-emitter saturation voltage	VCE(sat)	-	50	100	V	Ic/Iв=30mA/3mA
DC current transfer ratio	hfe	820	_	2700	_	Vce=2V, Ic=4mA
Transition frequency	f⊤	_	35	_	MHz	Vce=6V, Ie=-4mA, f=10MHz
Output capacitance	Cob	-	3.9	_	pF	Vcb=10V, Ie=0A, f=1MHz
Output On-resistance	Ron	-	0.7	_	Ω	I _B =5mA, V _i =100mVrms, f=1kHz

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Packaging specifications

	Packaging type	Taping
	Code	T110
Part No.	Basic ordering unit (pieces)	3000
IMX25		0

•Electrical characteristic curves

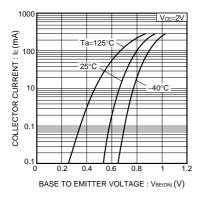


Fig.1 Grounded emitter propagation characteristics (I)

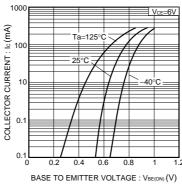


Fig.2 Grounded emitter propagation characteristics (II)

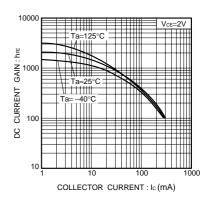


Fig.3 DC current gain vs. collector current (I)

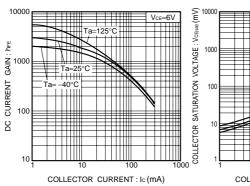
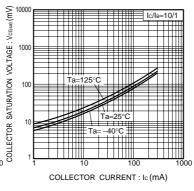


Fig.4 DC current gain vs. collector current (II)



vs. collector current (I)

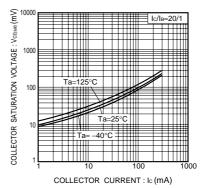


Fig.5 Collector-emitter saturation voltage Fig.6 Collector-emitter saturation voltage vs. collector current (II)

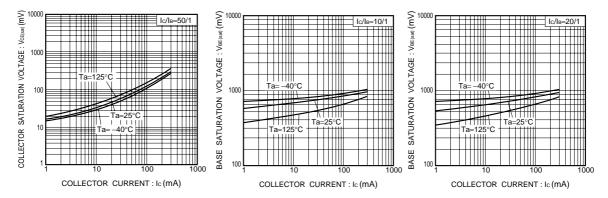


Fig.7 Collector-emitter saturation voltage vs. collector current (III)

Fig.8 Base-emitter saturation voltage vs. collector current (I)

Fig.9 Base-emitter saturation voltage vs. collector current (II)

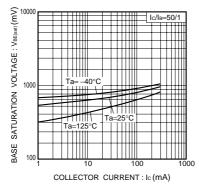


Fig.10 Base-emitter saturation voltage vs. collector current (III)

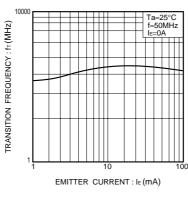


Fig.11 Gain bandwidth product vs. emitter current

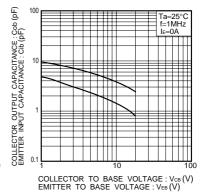


Fig.12 Collector output capacitance vs. collector-base voltage Emitter input capacitance vs. emitter-base voltage

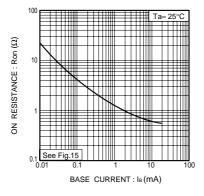


Fig.13 Output-on resistance vs. base current (I)

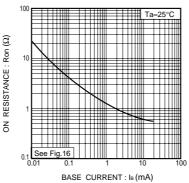
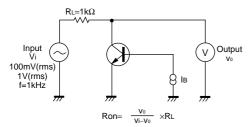


Fig.14 Output-on resistance vs. base current (II)

●Ron measurement circuit



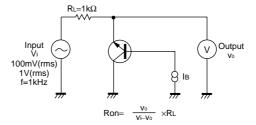


Fig.15 Ron measurement circuit (I)

Fig.16 Ron measurement circuit (II)

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