Low frequency transistor

Complex (2-elements) Bipolar Transistor

EMX28

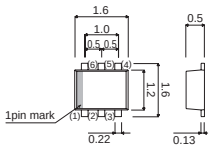
●Structure
NPN Silicon Epitaxial Planar Transistor

●Features
1) Two 2SD2696 dies are incorpolated in the EMT6 package.
Collector saturation voltage is low.
$V_{CE\ (sat)}$: max. 300mA at I_C = 100mA / I_B = 2mA

●Applications
General purpose small signal amplifier

●Dimensions (Unit : mm)

EMT6



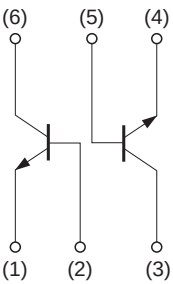
Each lead has same dimensions

Abbreviated symbol : X28

●Packaging specifications

Type	Package	Taping
	Code	T2R
	Basic ordering unit (pieces)	8000
EMX28		○

●Inner circuit



●Absolute maximum ratings (Ta=25°C)
<Tr1, Tr2>

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	30	V
Collector-emitter voltage	V_{CEO}	30	V
Emitter-base voltage	V_{EBO}	6	V
Collector current	I_C	400	mA
	I_{CP} *1	800	mA
Power dissipation	P_D *2	150	mW / TOTAL
		120	mW / ELEMENT
Junction temperature	Tj	150	°C
Range of storage temperature	Tstg	−55 to +150	°C

*1 Pw=10ms, Single pulse
*2 Each terminal mounted on a recommended land.

●Electrical characteristics (Ta=25°C)
<Tr1, Tr2>

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	BV_{CEO}	30	–	–	V	I_C=1mA
Collector-base breakdown voltage	BV_{CBO}	30	–	–	V	I_C=10μA
Emitter-base breakdown voltage	BV_{EBO}	6	–	–	V	I_E=10μA
Collector cut-off current	I_{CBO}	–	–	100	nA	V_{CB}= 30V
Emitter cut-off current	I_{EBO}	–	–	100	nA	V_{EB}= 6V
Collector-emitter saturation voltage	$V_{CE\ (sat)}$	–	120	300	mV	I_C=100mA, I_B= 2mA
DC current gain	h_{FE}	270	–	680	–	V_{CE}=2V, I_C=100mA
Transition frequency	f_T	–	400	–	MHz	V_{CE}=2V, I_E= −100mA, f=100MHz
Output capacitance	C_{ob}	–	3.0	–	pF	V_{CB}=10V, I_E= 0A, f=1MHz

●Electrical characteristics curves

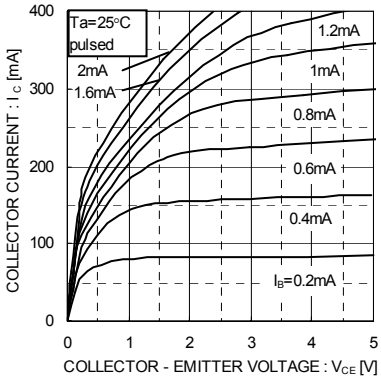


Fig.1 Typical Output Characteristics

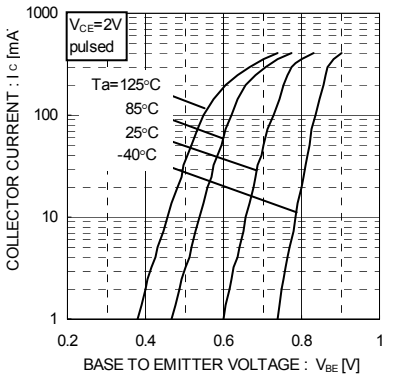


Fig.2 Grounded Emitter Propagation Characteristics

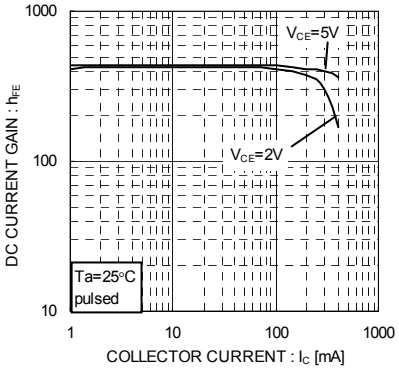


Fig.3 DC Current Gain vs Collector Current (Ⅰ)

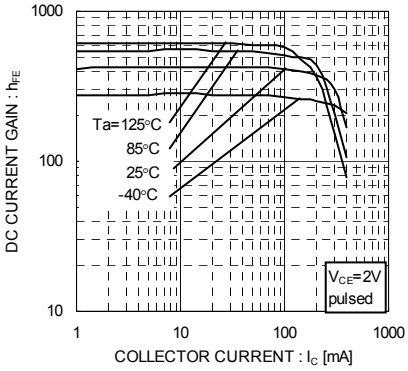


Fig.4 DC Current Gain vs Collector Current (Ⅱ)

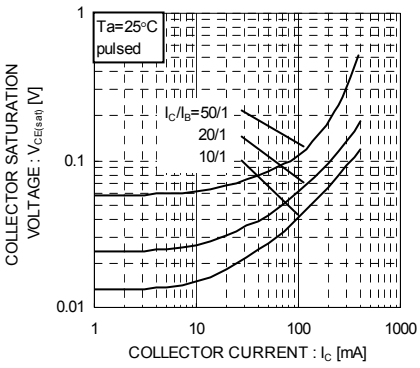


Fig.5 Collector-Emitter Saturation Voltage vs Collector Current (Ⅰ)

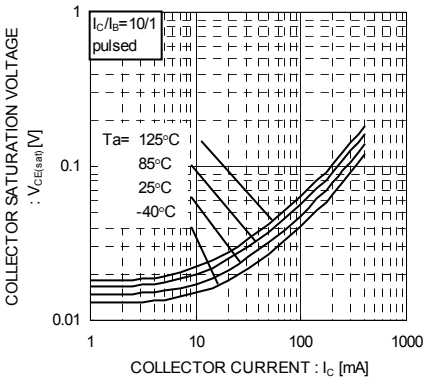


Fig.6 Collector-Emitter Saturation Voltage vs Collector Current (Ⅱ)

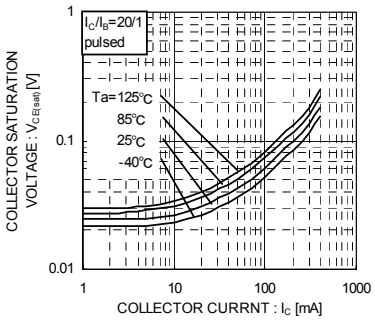


Fig.7 Collector-Emitter Saturation Voltage vs Collector Current (Ⅲ)

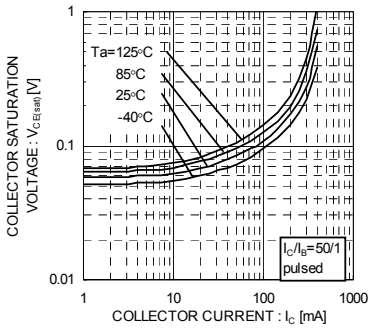


Fig.8 Collector-Emitter Saturation Voltage vs Collector Current (Ⅳ)

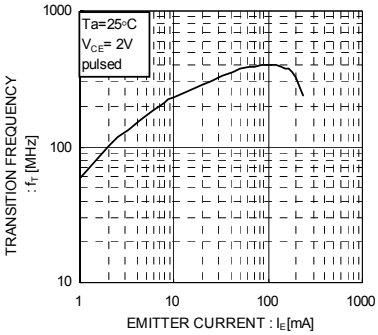


Fig.9 Transion frequency vs Emitter Collector

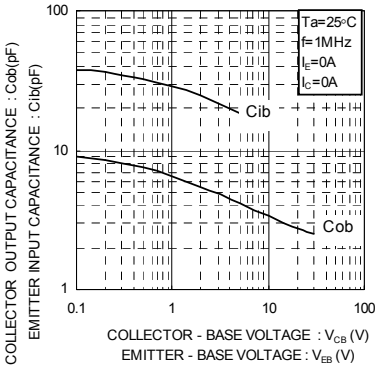


Fig.10 Emitter input capacitance vs. Emitter-Base Voltage
Collector output capacitance vs. Collector-Base Voltage

Notes

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