

Low frequency transistor (for amplification)

2SD2696

●Structure

NPN Silicon Epitaxial Planar Transistor

●Features

- 1) The transistor of 400mA class which went only with 1202 size conventionally is attained in 1208 size.
- 2) Collector saturation voltage is low.

$V_{CE(sat)}$: max. 300mV at $I_C = 100mA$ / $I_B = 2mA$

●Applications

Switching

●Packaging specifications

Type	Package	Taping
	Code	T2L
	Basic ordering unit (pieces)	8000
2SD2696		○

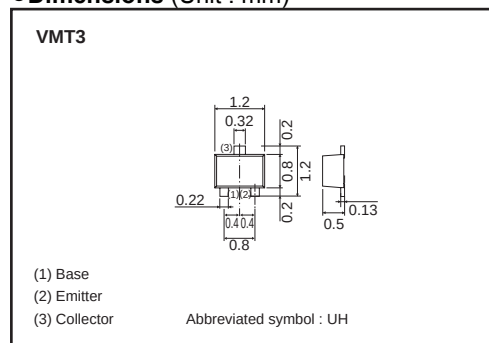
●Absolute maximum ratings (Ta=25°C)

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
Junction temperature	T_j	150	°C
Range of storage temperature	T_{stg}	-55 to +150	°C

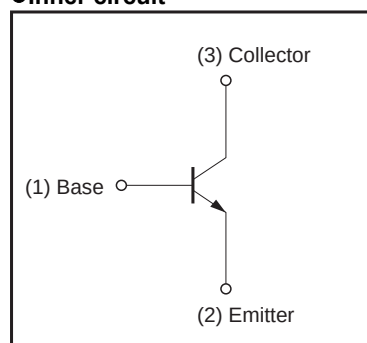
*1 $P_w=10ms$, Single pulse

*2 Each terminal mounted on a recommended land.

●Dimensions (Unit : mm)



●Inner circuit



●Electrical characteristics (Ta=25°C)

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	$I_C=10\mu A$
Emitter-base breakdown voltage	BV_{EBO}	6	—	—	V	$I_E=10\mu A$
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

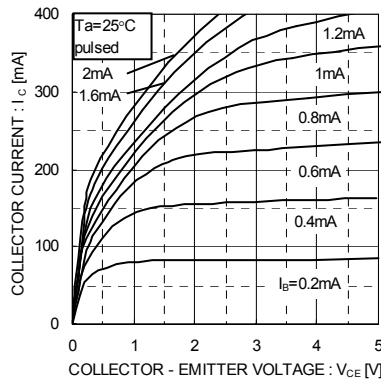


Fig.1 Typical Output Characteristics

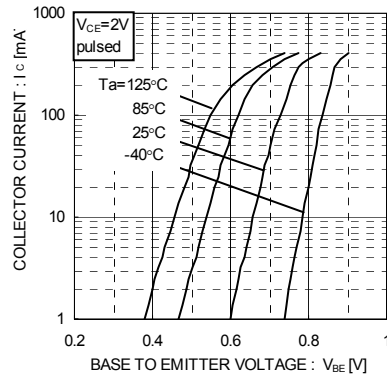


Fig.2 Grounded Emitter Propagation Characteristics

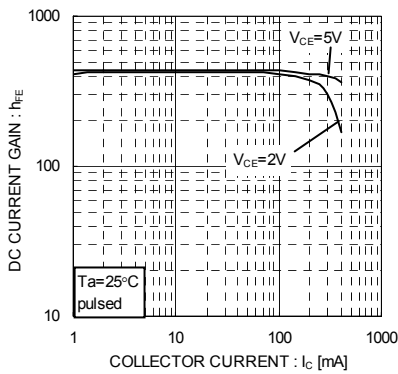


Fig.3 DC Current Gain vs Collector Current (I)

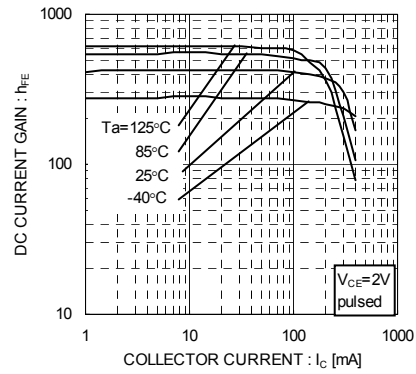


Fig.4 DC Current Gain vs Collector Current (II)

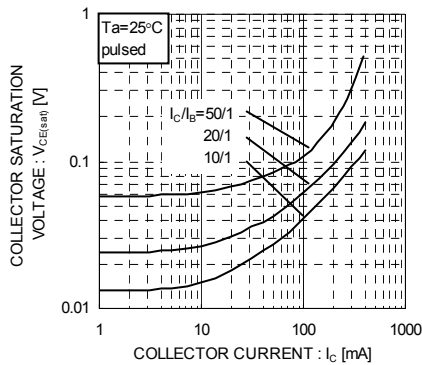


Fig.5 Collector-Emitter Saturation Voltage vs Collector Current (I)

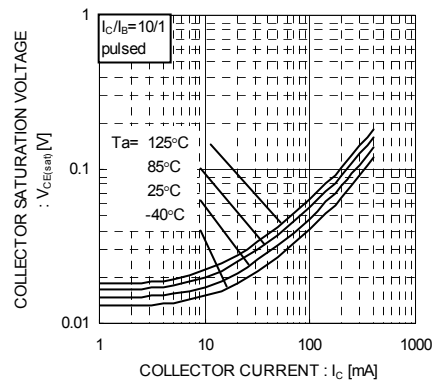


Fig.6 Collector-Emitter Saturation Voltage vs Collector Current (II)

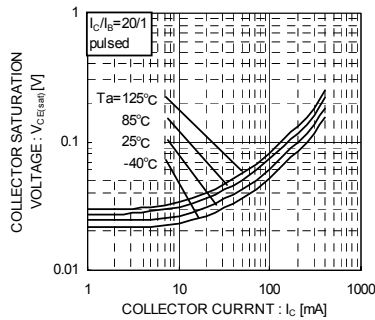


Fig.7 Collector-Emitter Saturation
Voltage vs Collector Current (III)

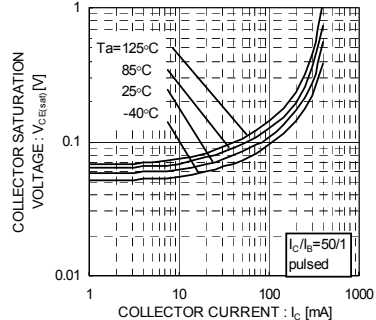


Fig.8 Collector-Emitter Saturation
Voltage vs Collector Current (IV)

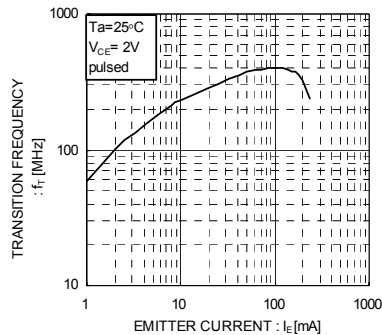


Fig.9 Transition frequency vs
Emitter Collector

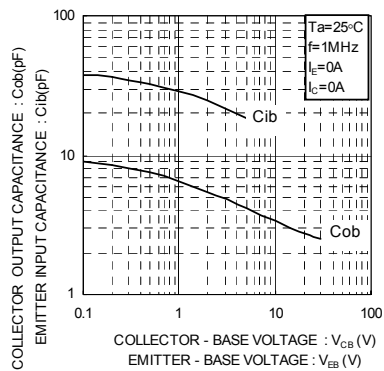


Fig.10 Emitter input capacitance vs. Emitter-
Base Voltage
Collector output capacitance vs. Collector-
Base Voltage

Notes

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