

# 2SA699, 2SA699A

## Silicon PNP Epitaxial Planar Type

Power Amplifier

Complementary Pair with 2SC1226, 2SC1226A

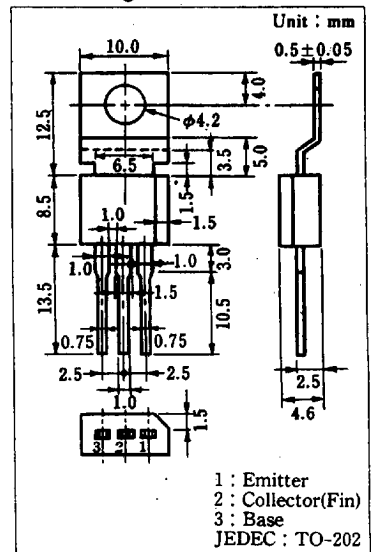
### ■ Feature

- 5W output in complementary pair with 2SC1226, 2SC1226A

### ■ Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Value	Unit
Collector-base voltage	2SA699	-40	V
	2SA699A	-50	
Collector-emitter voltage	2SA699	-32	V
	2SA699A	-40	
Emitter-base voltage	V <sub>EBO</sub>	-5	V
Peak collector current	I <sub>CP</sub>	-3	A
Base current	I <sub>B</sub>	-0.6	A
Collector power dissipation (Tc=25°C)	P <sub>C</sub>	10	W
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 ~ +150	°C

### ■ Package Dimensions



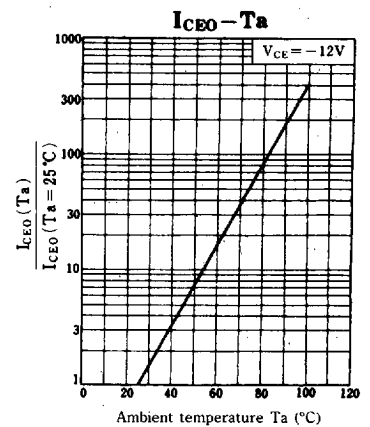
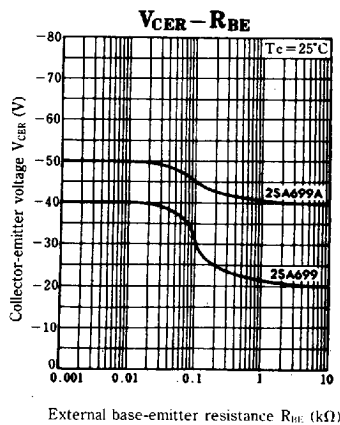
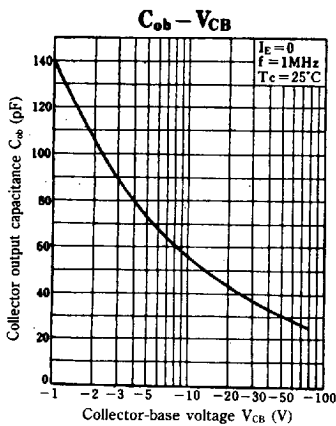
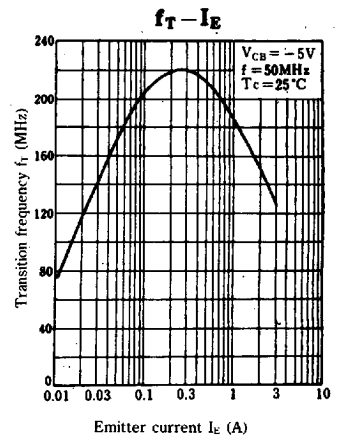
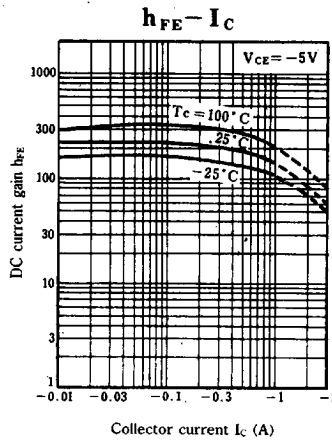
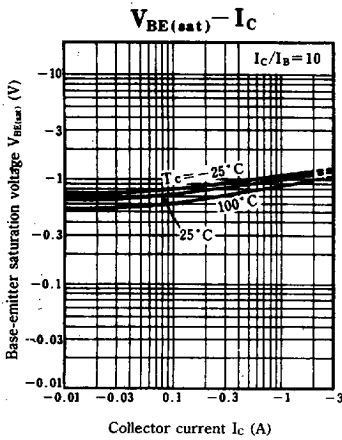
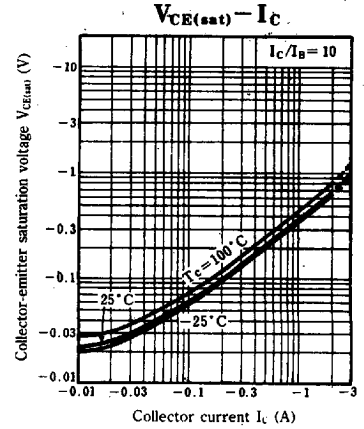
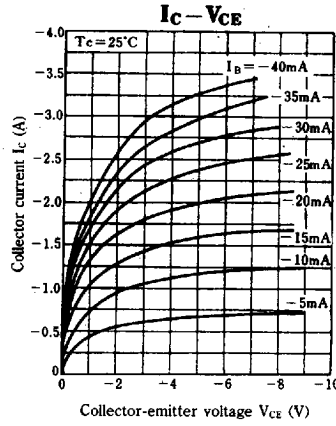
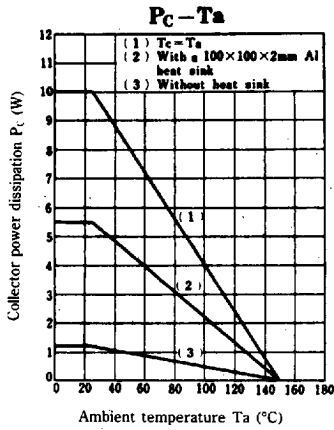
### ■ Electrical Characteristics (Tc=25°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I <sub>CB0</sub>	V <sub>CB</sub> = -20 V, I <sub>E</sub> = 0			-1	μA
	I <sub>CE0</sub>	V <sub>CE</sub> = -12 V, I <sub>B</sub> = 0			-100	
Emitter cutoff current	I <sub>EBO</sub>	V <sub>EB</sub> = -5 V, I <sub>C</sub> = 0			-100	μA
Collector-base voltage	2SA699	I <sub>C</sub> = -1 mA, I <sub>E</sub> = 0	-40			V
	2SA699A		-50			
Collector-emitter voltage	2SA699	I <sub>C</sub> = -10 mA, I <sub>B</sub> = 0	-32			V
	2SA699A		-40			
DC current gain	h <sub>FE</sub> *	V <sub>CE</sub> = -5 V, I <sub>C</sub> = -1 A	50		220	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = -1.5 A, I <sub>B</sub> = -0.15 A		-0.4	-1	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = -2 A, I <sub>B</sub> = -0.2 A			-1.5	V
Transition frequency	f <sub>T</sub>	V <sub>CB</sub> = -5 V, I <sub>E</sub> = 0.5 A, f = 200 MHz		150		MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = -5 V, I <sub>E</sub> = 0, f = 1 MHz		70		pF

### \*h<sub>FE</sub> Classifications

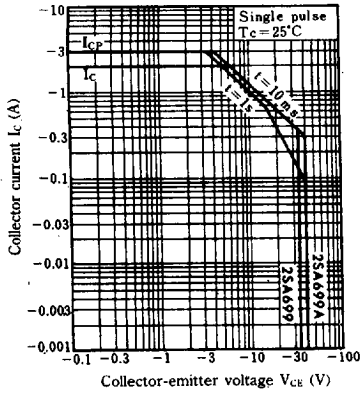
Class	P	Q	R
h <sub>FE</sub>	50 ~ 100	80 ~ 160	100 ~ 220

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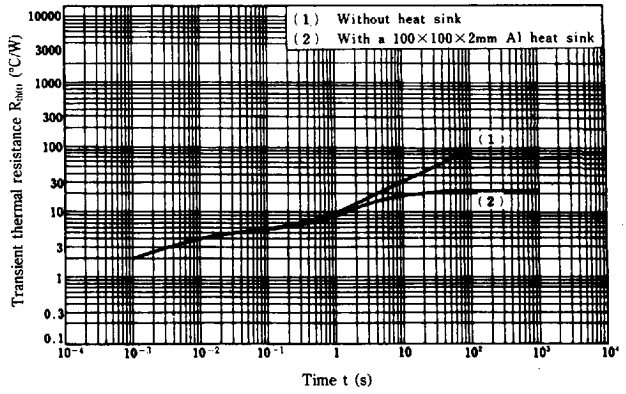


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Area of safe operation (ASO)



$R_{th}(t) - t$



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