2SA699, 2SA699A

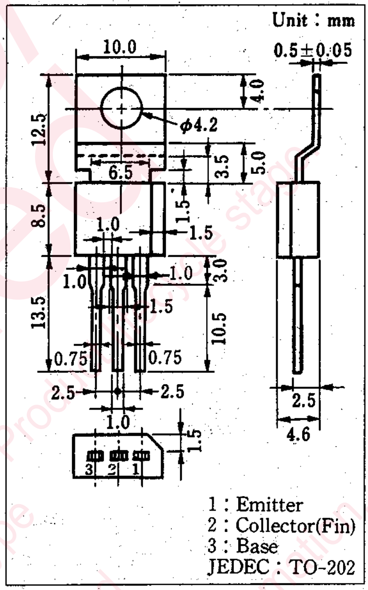
Silicon PNP Epitaxial Planar Type

Power Amplifier
Complementary Pair with 2SC1226, 2SC1226A

■ Feature

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

■ Package Dimensions



■ Absolute Maximum Ratings (Ta=25°C)

Item		Symbol	Value	Unit
Collector-base voltage	2SA699	V_{CBO}	−40	V
	2SA699A		−50	
Collector-emitter voltage	2SA699	V_{CEO}	−32	V
	2SA699A		−40	
Emitter-base voltage		V_{EBO}	−5	V
Peak collector current		I_{CP}	−3	A
Base current		I_B	−0.6	A
Collector power dissipation (Tc=25°C)		P_C	10	W
Junction temperature		T_j	150	℃
Storage temperature		T_{stg}	−55～+150	℃

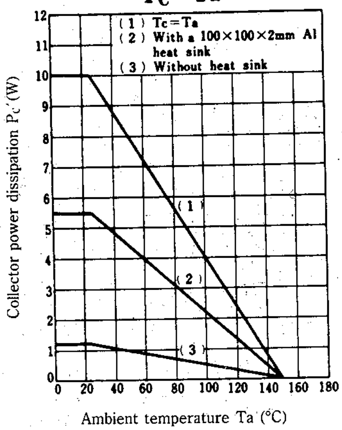
■ Electrical Characteristics (Tc=25°C)

Item		Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current		I_{CBO}	$V_{CB}=-20$ V, $I_E=0$			−1	μA
		I_{CEO}	$V_{CE}=-12$ V, $I_B=0$			−100	
Emitter cutoff current		I_{EBO}	$V_{EB}=-5$ V, $I_C=0$			−100	μA
Collector-base voltage	2SA699	V_{CBO}	$I_C=-1$ mA, $I_E=0$	−40			V
	2SA699A			−50			
Collector-emitter voltage	2SA699	V_{CEO}	$I_C=-10$ mA, $I_B=0$	−32			V
	2SA699A			−40			
DC current gain		h_{FE}*	$V_{CE}=-5$ V, $I_C=-1$ A	50		220	
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C=-1.5$A, $I_B=-0.15$A		−0.4	−1	V
Base-emitter saturation voltage		$V_{BE(sat)}$	$I_C=-2$A, $I_B=-0.2$A			−1.5	V
Transition frequency		f_T	$V_{CB}=-5$V, $I_E=0.5$A, f=200MHz		150		MHz
Collector output capacitance		C_{ob}	$V_{CB}=-5$ V, $I_E=0$, f=1 MHz		70		pF

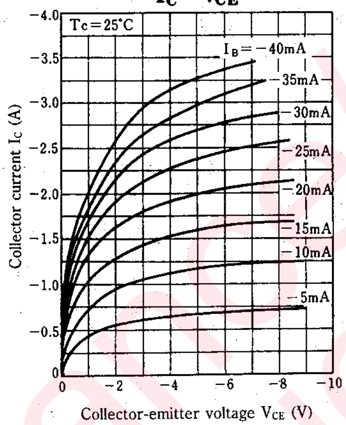
*h_{FE} Classifications

Class	P	Q	R
h_{FE}	50～100	80～160	100～220

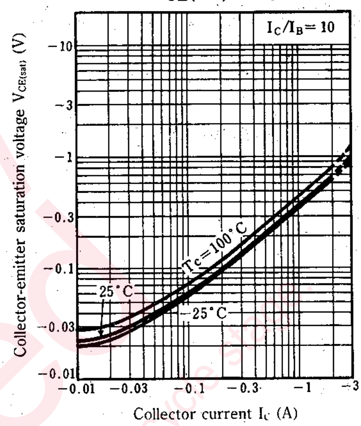
P_C — Ta



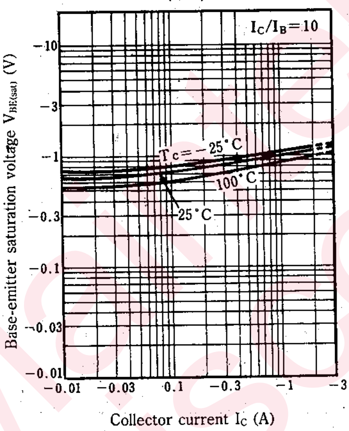
I_C — V_{CE}



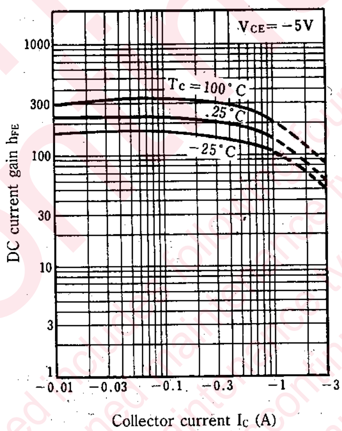
$V_{CE(sat)}$ — I_C



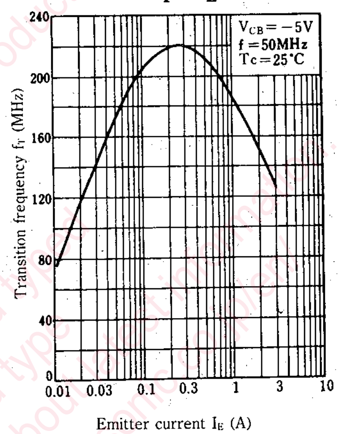
$V_{BE(sat)}$ — I_C



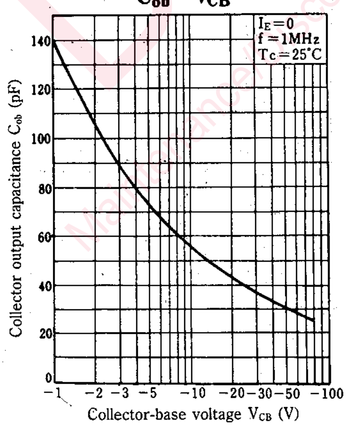
h_{FE} — I_C



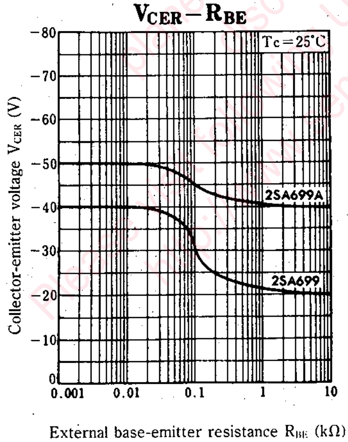
f_T — I_E



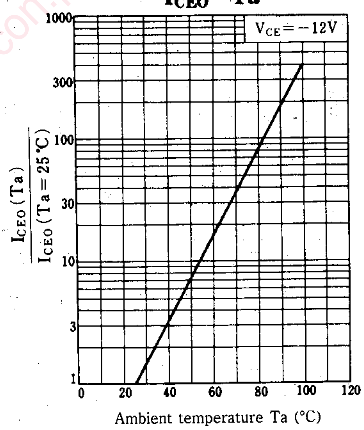
C_{ob} — V_{CB}



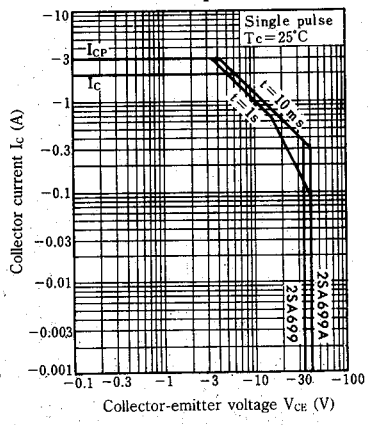
V_{CER} — R_{BE}



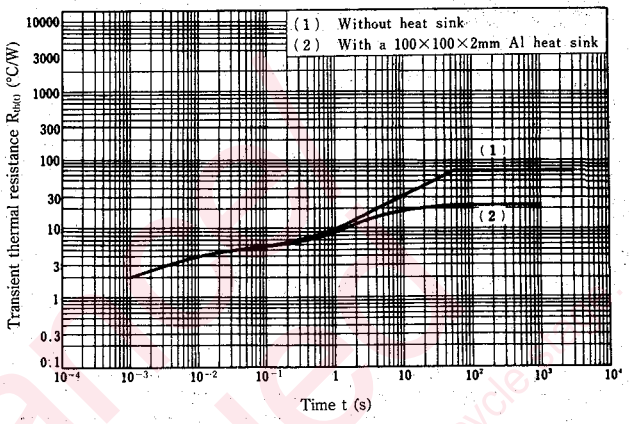
I_{CEO} — Ta



Area of safe operation (ASO)



$R_{th\,(t)} - t$



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