

# 2SC1398, 2SC1398A

## Silicon NPN Epitaxial Planar Type

Medium Power Amplifier  
Complementary Pair with 2SA748

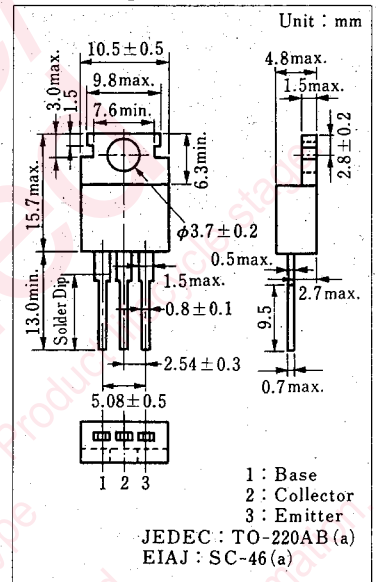
### ■ Feature

- Large collector power dissipation ( $P_C$ )
- 10W output in complementary pair with 2SA748

### ■ Absolute Maximum Ratings ( $T_a=25^\circ\text{C}$ )

Item	Symbol	Value	Unit
Collector-base voltage	$V_{CB0}$	70	V
Collector-emitter voltage	2SC1398	50	V
	2SC1398A	70	
Emitter-base voltage	$V_{EB0}$	5	V
Peak collector current	$I_{CP}$	3	A
Collector current	$I_C$	2	A
Collector power dissipation ( $T_c=25^\circ\text{C}$ )	$P_C$	15	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	$-55 \sim +150$	$^\circ\text{C}$

### ■ Package Dimensions

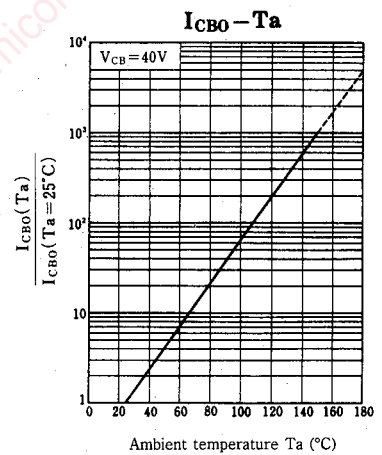
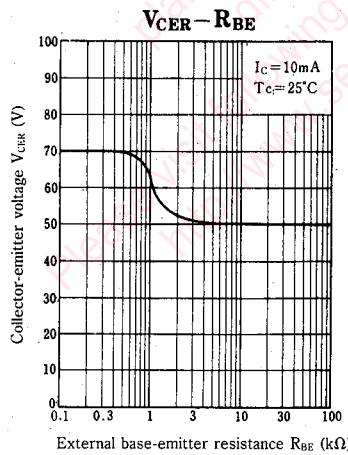
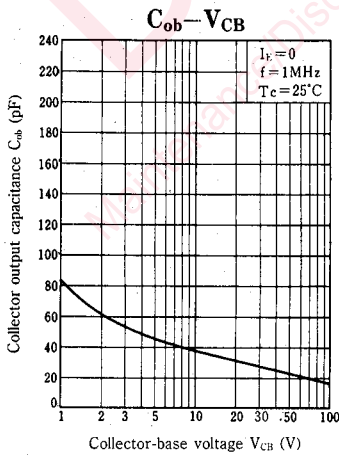
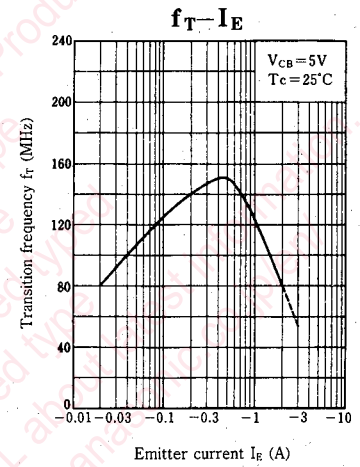
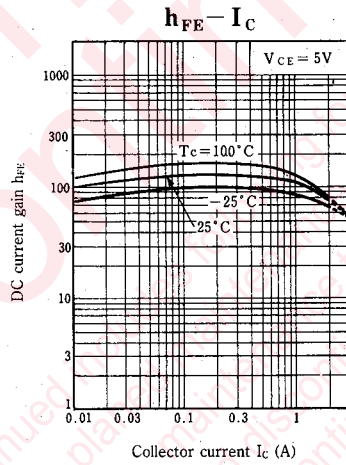
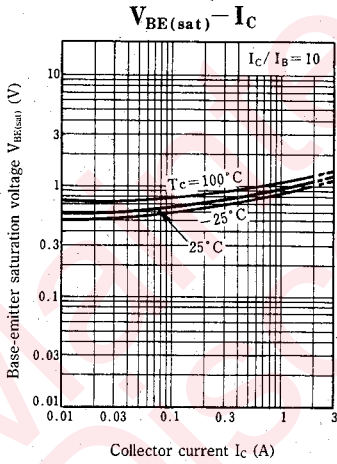
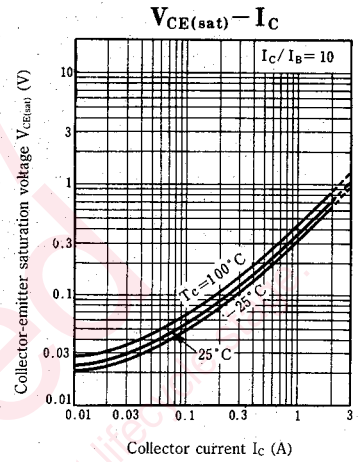
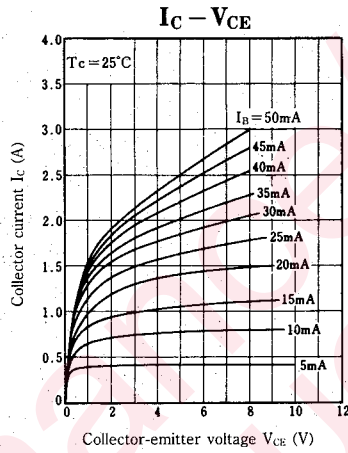
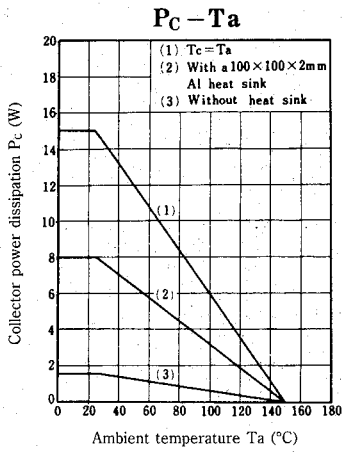


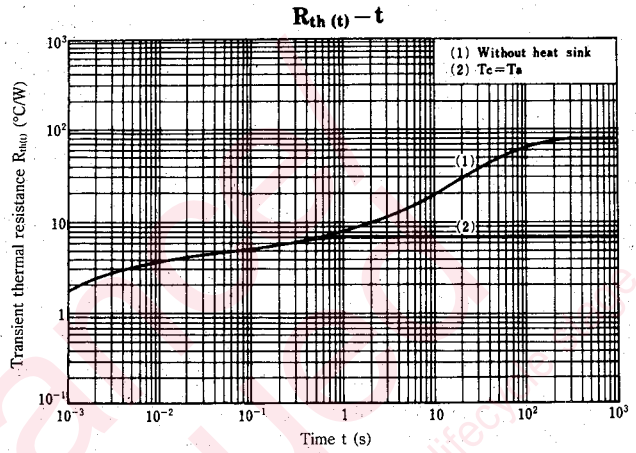
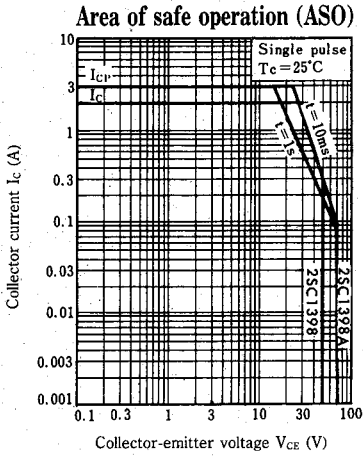
### ■ Electrical Characteristics ( $T_c=25^\circ\text{C}$ )

Item	Symbol	Condition	min.	typ.	max.	Unit	
Collector cutoff current	$I_{CB0}$	$V_{CB}=40\text{ V}, I_E=0$			1	$\mu\text{A}$	
	$I_{CE0}$	$V_{CE}=20\text{ V}, I_B=0$			100		
Emitter cutoff current	$I_{EB0}$	$V_{EB}=5\text{ V}, I_C=0$			100	$\mu\text{A}$	
Collector-base voltage	$V_{CB0}$	$I_C=1\text{ mA}, I_E=0$	70			V	
Collector-emitter voltage	2SC1398	$V_{CE0}$	$I_C=10\text{ mA}, I_B=0$	50		V	
	2SC1398A			70			
DC current gain	$h_{FE1}$	$V_{CE}=5\text{ V}, I_C=100\text{ mA}$	30				
	$h_{FE2}^*$	$V_{CE}=5\text{ V}, I_C=1\text{ A}$	2SC1398	50		220	
			2SC1398A	50		160	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=1\text{ A}, I_B=100\text{ mA}$		0.6	1.0	V	
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=2\text{ A}, I_B=200\text{ mA}$		1.0	1.5	V	
Transition frequency	$f_T$	$V_{CE}=5\text{ V}, I_C=500\text{ mA}, f=200\text{ MHz}$		120		MHz	

### \* $h_{FE2}$ Classifications

Type No.	Class	P	Q	R
2SC1398	$h_{FE2}$	50~100	80~160	120~220
2SC1398A	$h_{FE2}$	50~100	80~160	—





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