

# 2SC1398, 2SC1398A

## Silicon NPN Epitaxial Planar Type

Medium Power Amplifier  
Complementary Pair with 2SA748

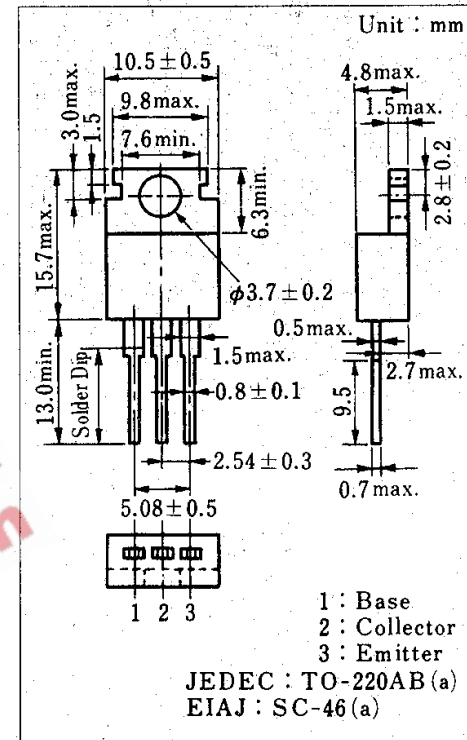
### ■ Feature

- 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 ~ +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	$\mu\text{A}$
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	$I_C=10\text{ mA}, I_B=0$	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	—