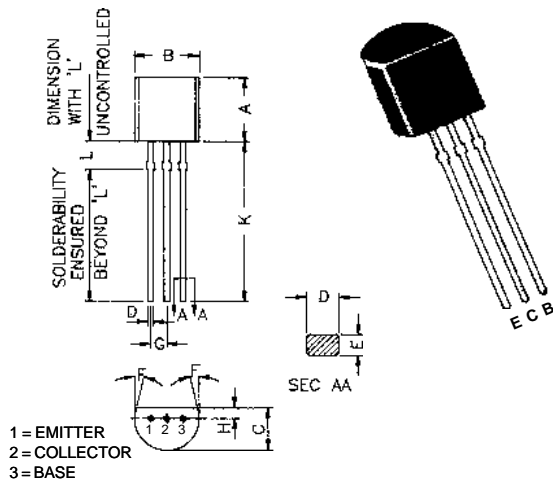


**TO-92 Plastic Package**

**CSA970  
CSC2240**

**CSA 970 PNP SILICON PLANAR EPITAXIAL TRANSISTORS  
CSC 2240 NPN SILICON PLANAR EPITAXIAL TRANSISTORS**

*Low Noise Audio Amplifier*



DIM	MIN	MAX
A	4,32	5,33
B	4,45	5,20
C	3,18	4,19
D	0,41	0,55
E	0,35	0,50
F	5 DEG	
G	1,14	1,40
H	1,14	1,53
K	12,70	-
L	1.982	2.082

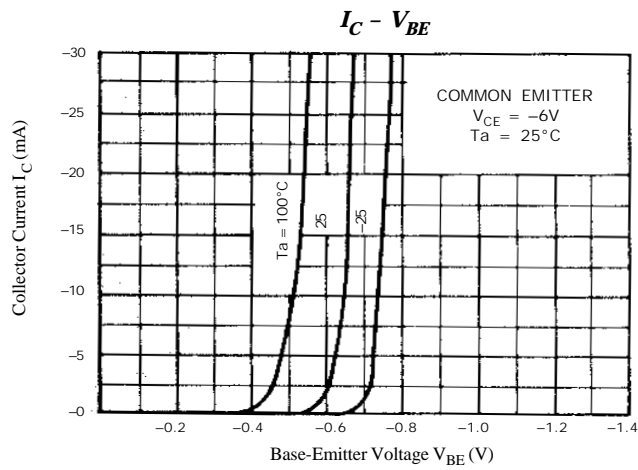
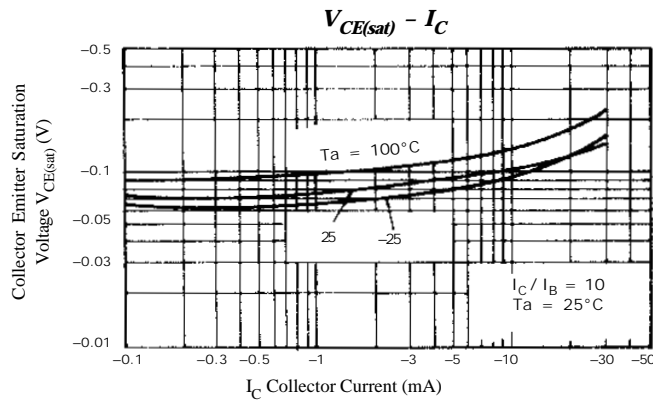
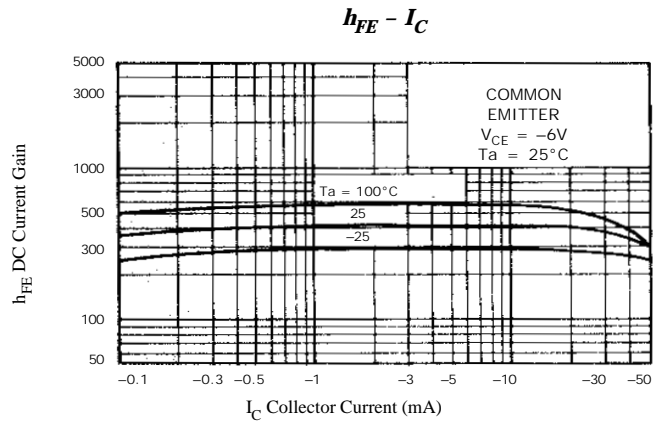
ALL DIMENSIONS IN M.M.

**ABSOLUTE MAXIMUM RATINGS**

Rating	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	120	V
Collector Emitter Voltage	$V_{CEO}$	120	V
Emitter Base Voltage	$V_{EBO}$	5	V
Collector Current Continuous	$I_C$	100	mA
Emitter Current	$I_E$	100	mA
Power Dissipation	$P_D$	300	mW
Operating and Storage Junction Temperature Range	$T_j, T_{stg}$	-55 to +150	°C

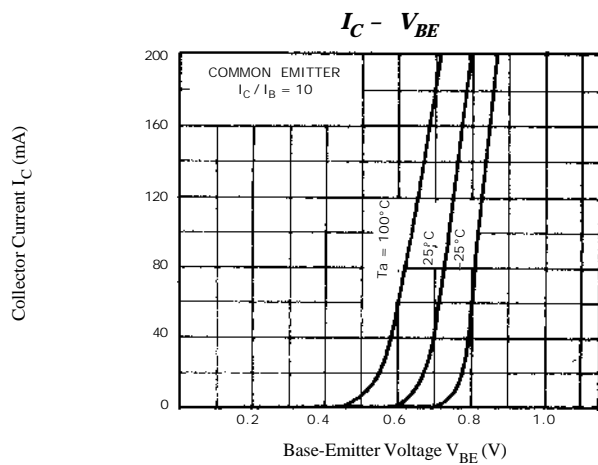
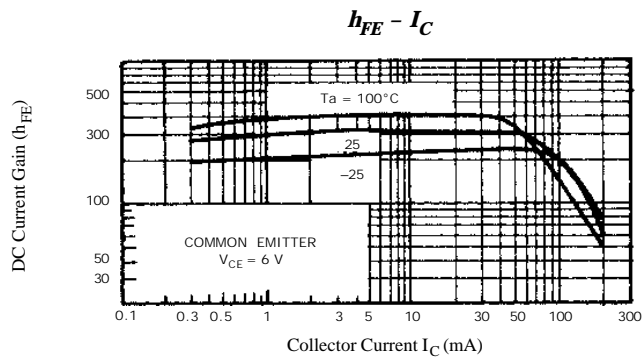
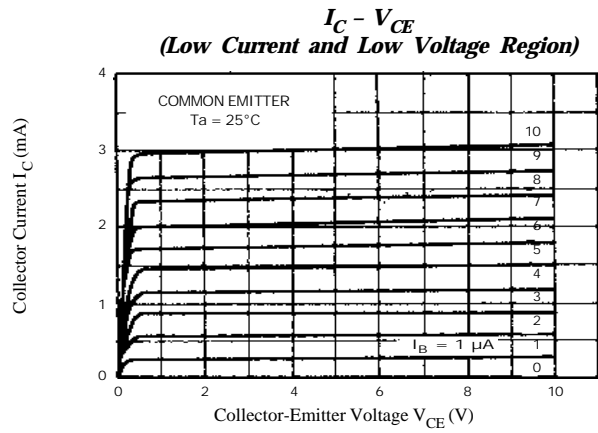
**ELECTRICAL CHARACTERISTICS** ( $T_a = 25\text{ }^\circ\text{C}$  unless otherwise specified)

Characteristic Unit	Symbol	Min	Typ	Max		
Collector Cutoff Current $V_{CB}=120\text{V}, I_E=0$	$I_{CBO}$	-	-	100	nA	
Emitter Cutoff Current $V_{EB}=5\text{V}, I_C=0$	$I_{EBO}$	-	-	100	nA	
Collector Emitter Voltage $I_C=1\text{mA}, I_B=0$	$BV_{CEO}$	120	-	-	V	
D.C. Current Gain $V_{CE}=6\text{V}, I_C=2\text{mA}$	$h_{FE}$	200	-	700		
Collector Emitter Saturation Voltage $I_C=10\text{mA}, I_B=1\text{mA}$	$V_{CE(sat)}$	-	-	0.3	V	
Base Emitter On Voltage $V_{CE}=6\text{V}, I_C=2\text{mA}$	$V_{BE(on)}$	-	0.65	-	V	
<b>DYNAMIC CHARACTERISTICS</b>						
Transition Frequency $V_{CE}=6\text{V}, I_C=1\text{mA}$	$f_T$	-	100	-	MHz	
Collector Output Capacitance $V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$	$C_{ob}$	CSA970 CSC2240	-	4.0	-	pF
			-	3.0	-	pF
Noise Figure $V_{CE}=5\text{V}, I_C=250\mu\text{A}$ $R_g=1\text{k}\Omega, f=10\text{Hz to } 15.7\text{ kHz}$	NF	-	-	10	dB	
$V_{CE}=6\text{V}, I_C=100\mu\text{A}, f=1\text{KHz}$ $R_g=100\Omega$		-	3	-	dB	
$h_{FE}$ Classification			GR 200-400	BL 350-700		



CSA970  
CSC2240

CSC2240



## Notes

### Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished on the CDIL Web Site/ CD is believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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