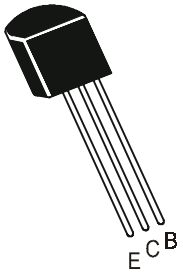
Continental Device India Limited

An IS/ISO 9002 and IECQ Certified Manufacturer

IS/ISO 9002
Lic# OSC/L- 000019.2

NPN SILICON PLANAR EPITAXIAL TRANSISTOR

CSC458



TO-92
Plastic Package

Low Frequency Amplifier.

Complementary CSA 1029

ABSOLUTE MAXIMUM RATINGS (Ta=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector Emitter Voltage	V_{CEO}	30	V
Collector Base Voltage	V_{CBO}	30	V
Emitter Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	100	mA
Emitter Current	I_E	100	mA
Collector Power Dissipation	P_C	200	mW
Operating And Storage Junction Temperature Range	T_j, T_{stg}	-55 to +150	ºC

ELECTRICAL CHARACTERISTICS (Ta=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Emitter Voltage	V_{CEO}	I_C=1mA,I_E=0	30			V
Collector Base Voltage	V_{CBO}	I_C=10µA,I_E=0	30			V
Emitter Base Voltage	V_{EBO}	I_E=10µA, I_C=0	5.0			V
Collector Cut off Current	I_{CBO}	V_{CB}=18V, I_E = 0			500	nA
Emitter Cut off Current	I_{EBO}	V_{BE}=2V, I_C = 0			500	nA
DC Current Gain	h_{FE}	V_{CE}=12V,I_C=2mA	100		500	
Base Emitter On Voltage	$V_{BE(on)}$	I_C=2mA,V_{CE}=12V			0.75	V
Collector Emitter Saturation Voltage	$V_{CE(sat)}$*	I_C=10mA,I_B=1mA	<0.4		0.20	V

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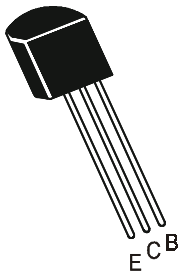

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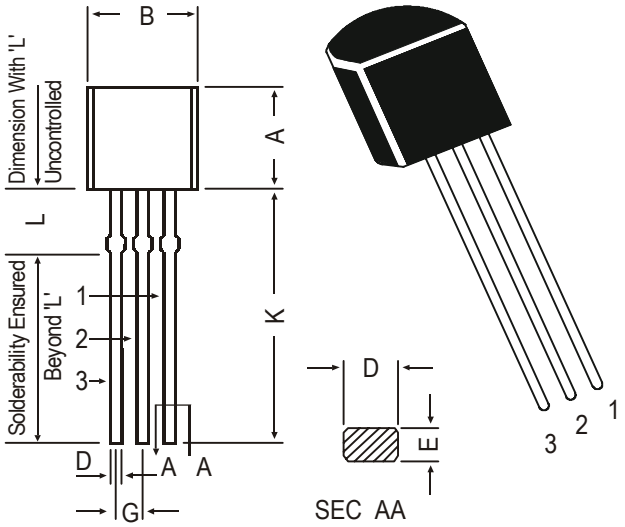
Plastic Package

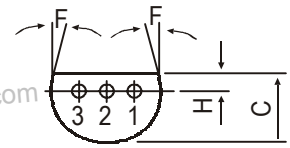
ELECTRICAL CHARACTERISTICS (Ta=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
DYNAMIC CHARACTERISTICS						
Transition Frequency	f_T	I_C=2mA, V_{CE}=12V		230		MHz
Output Capacitance	C_{ob}	I_E=0, V_{CB}=10V f=1MHz		3.5		pF
Input Impedance	h_{ie}	I_C=0.1mA, V_{CE}=5V f=270Hz			16.5	KΩ
Output Admittance	h_{oe}			11		µs
Voltage Feedback Ratio	h_{re}			70		$x10^{-6}$
Small Signal Current Gain	$\lvert h_{fe} \rvert$			130		
Noise Figure	NF	V_{CE} =6V,I_C=0.1mA Rg=5001KΩ , f=1KH$_Z$			10	dB

h_{FE} CLASSIFICATION :	B :	C:	D:
	100-200	160-320	250-500

TO-92 Plastic Package



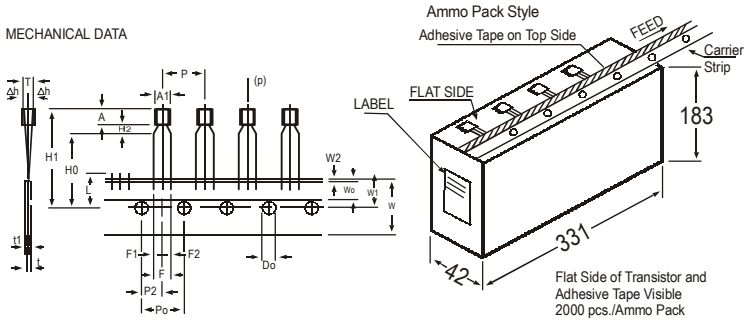


PIN CONFIGURATION
1. BASE
2. COLLECTOR
3. EMITTER

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 diminsions in mm.

TO-92 Transistors on Tape and Ammo Pack



All dimensions in mm unless specified otherwise

ITEM	SYMBOL	SPECIFICATION MIN.	NOM.	MAX.	TOL .	REMARKS
BODY WIDTH	A1	4.0		4.8		
BODY HEIGHT	A	4.8		5.2		
BODY THICKNESS	T	3.9		4.2		
PITCH OF COMPONENT	P		12.7		±1	
FEED HOLE PITCH	Po		12.7		±0.3	CUMULATIVE PITCH ERROR 1.0 mm/20 PITCH
FEED HOLE CENTRE TO COMPONENT CENTRE	P2		6.35		±0.4	TO BE MEASURED AT BOTTOM OF CLINCH
DISTANCE BETWEEN OUTER LEADS	F		5.08		+0.6 -0.2	
COMPONENT ALIGNMENT	△h		0	1		AT TOP OF BODY
TAPE WIDTH	W		18		±0.5	
HOLD-DOWN TAPE WIDTH	Wo		6		±0.2	
HOLE POSITION	W1		9		+0.7 -0.5	
HOLD-DOWN TAPE POSITION	W2		0.5		±0.2	
LEAD WIRE CLINCH HEIGHT	Ho		16		±0.5	
COMPONENT HEIGHT	H1			23.25		
LENGTH OF SNIPPED LEADS	L			11.0		
FEED HOLE DIAMETER	Do		4		±0.2	
TOTAL TAPE THICKNESS	t			1.2		t1 0.3 - 0.6
LEAD - TO - LEAD DISTANCEF1,	F2		2.54		+0.4 -0.1	
CLINCH HEIGHT	H2			3		
PULL - OUT FORCE	(P)	6N				

NOTES
1. MAXIMUM ALIGNMENT DEVIATION BETWEEN LEADS NOT TO BE GREATER THAN 0.2 mm.
2. MAXIMUM NON-CUMULATIVE VARIATION BETWEEN TAPE FEED HOLES SHALL NOT EXCEED 1 mm IN 20 PITCHES.
3. HOLDDOWN TAPE NOT TO EXCEED BEYOND THE EDGE(S) OF CARRIER TAPE AND THERE SHALL BE NO EXPOSURE OF ADHESIVE.
4. NO MORE THAN 3 CONSECUTIVE MISSING COMPONENTS ARE PERMITTED.
5. A TAPE TRAILER, HAVING AT LEAST THREE FEED HOLES ARE REQUIRED AFTER THE LAST COMPONENT.
6. SPLICES SHALL NOT INTERFERE WITH THE SPROCKET FEED HOLES.

Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-92 Bulk	1K/polybag	200 gm/1K pcs	3" x 7.5" x 7.5"	5K	17" x 15" x 13.5"	80K	23 kgs
TO-92 T&A	2K/ammo box	645 gm/2K pcs	12.5" x 8" x 1.8"	2K	17" x 15" x 13.5"	32K	12.5 kgs

Notes

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Plastic Package

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 in the Data Sheet and 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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