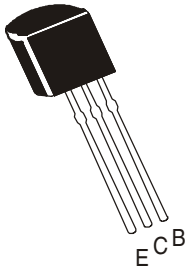
PNP EPITAXIAL PLANAR SILICON TRANSISTOR

CSA1015



TO-92
Plastic Package

Audio Frequency General Purpose and Driver Stage Amplifier Applications.
Complementary CSC1815

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

DESCRIPTION	SYMBOL	VALUE	UNITS
Collector Base Voltage	V_{CBO}	50	V
Collector Emitter Voltage	V_{CEO}	50	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current Continuous	I_C	150	mA
Base Current	I_B	50	mA
Collector Power Dissipation	P_C	625	mW
Operating And Storage Junction Temperature Range	T_j, T_{stg}	-55 to +125	ºC

THERMAL RESISTANCE

Junction to case	$R_{th(j-c)}$	250	ºC/W

ELECTRICAL CHARACTERISTICS (T_a=25ºC unless specified otherwise)

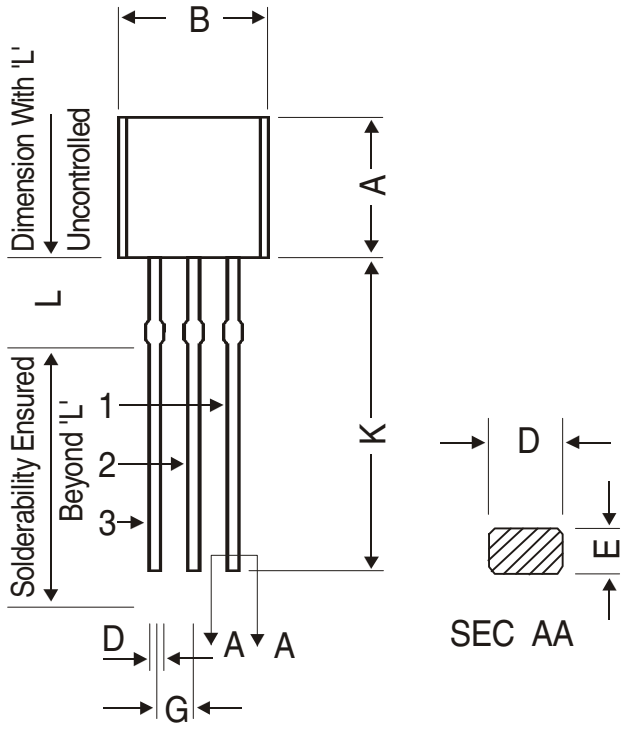
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector Cut off Current	I_{CBO}	V_{CB} =50V, I_E=0			100	nA
Emitter Cut off Current	I_{EBO}	V_{EB}=5V, I_C = 0			100	nA
DC Current Gain	*h_{FE}	I_C =2mA, V_{CE}=6V	70		400	
	h_{FE}	I_C =150mA, V_{CE}=6V	25			
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=100mA,I_B= 10mA			0.30	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=100mA,I_B= 10mA			1.1	V

DYNAMIC CHARACTERISTICS

Transition Frequency	ft	V_{CE}=10V, I_C=1mA, f=100MHz	80			MHz
Collector Output Capacitance	C_{ob}	V_{CB}=10V,I_E=0, f=1MHz			7.0	pF
Base Spreading Resistance	rbb'	V_{CB}=10V, I_E=1mA, f=30MHz		30		Ω
Noise Figure	NF	V_{CE}=6V, I_C=0.1mA, R_g=10Kohms, f=1KHz			10	dB

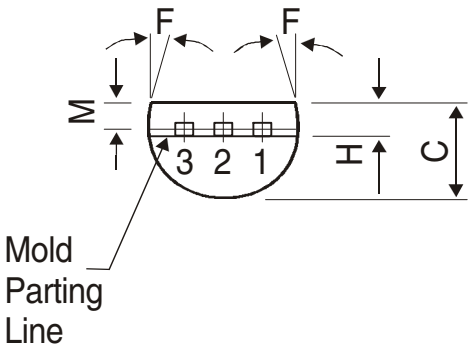
CLASSIFICATION	O	Y	GR
*h_{FE}	70 - 140	120 - 240	200 - 400

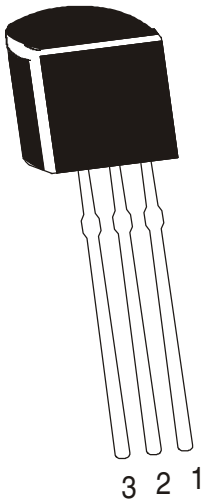
TO-92 Plastic Package



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	1.20	1.40
K	12.70	—
L	1.982	2.082
M	1.03	1.20

All dimensions are in mm





PIN CONFIGURATION
1. BASE
2. COLLECTOR
3. EMITTER

The TO-92 Package, Tape and Ammo Pack Drawings are correct as on the date of issue/revision of this Data Sheet.

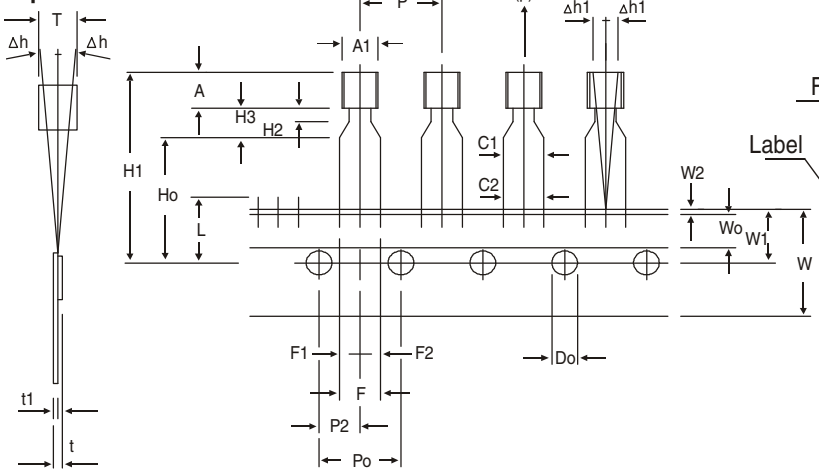
The currently valid dimensions and information, may please be confirmed from the TO-92 Drawing in the Packages and Packing Section of the Product Catalogue.

Packing Details

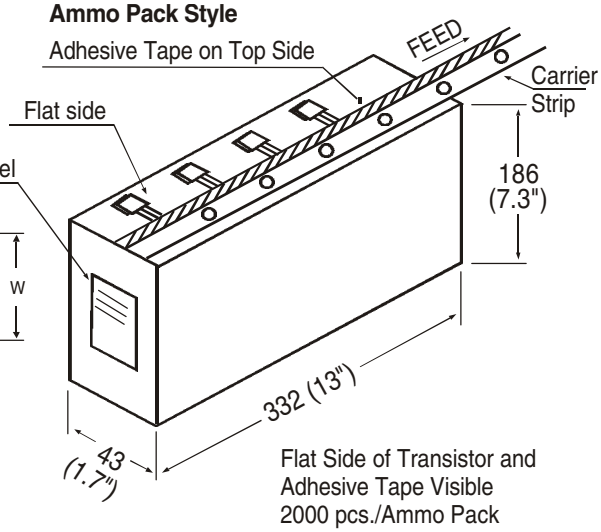
PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-92 Bulk	1K/polybag	200 gm/1K pcs	3" x 7.5" x 7.5"	5K	17" x 15" x 13.5"	80K	23 kgs
TO-92 T&A	2K/ammo box	645 gm/2K pcs	12.5" x 8" x 1.8"	2K	17" x 15" x 13.5"	32K	12.5 kgs

TO-92 Tape and Ammo Pack

Tape Mechanical Data



Ammo Pack Style



Flat Side of Transistor and
Adhesive Tape Visible
2000 pcs./Ammo Pack

All dimensions are in mm

ITEM	SYMBOL	SPECIFICATION			
		MIN.	NOM.	MAX.	TOL .
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		± 1.0
*1 FEED HOLE PITCH	Po		12.7		± 0.3
*2 FEED HOLE CENTRE TO COMPONENT CENTRE	P2		6.35		± 0.4
DISTANCE BETWEEN OUTER LEADS	F		5.08		+ 0.6 - 0.2
*3 COMPONENT ALIGNMENT SIDE VIEW	△h		0	1.0	
*4 COMPONENT ALIGNMENT FRONT VIEW	△h1		0	1.3	
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
*5 TOTAL TAPE THICKNESS	t			1.2	
LEAD - TO - LEAD DISTANCE	F1, F2		2.54		+ 0.4 - 0.1
STAND OFF	H2	0.45		1.45	
CLINCH HEIGHT	H3			3.0	
LEAD PARALLELISM	| C1 - C2 |			0.22	
PULL - OUT FORCE	(p)	6N			

NOTES

1. Maximum alignment deviation between leads will not to be greater than 0.2mm.
2. Maximum non-cumulative variation between tape feed holes shall not exceed 1 mm in 20 pitches.
3. Holddown tape will not exceed beyond the edge(s) of carrier tape and there shall be no exposure of adhesive.
4. There will be no more than three (3) consecutive missing components in a tape.
5. A tape trailer, having at least three feed holes are provided after the last component in a tape.
6. Splices should not interfere with the sprocket feed holes.

REMARKS

*1 Cumulative pitch error 1.0 mm/20 pitch

*2 To be measured at bottom of clinch

*3 At top of body

*4 At top of body

*5 t1 0.3 – 0.6 mm

TO-92
Plastic Package

Disclaimer

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