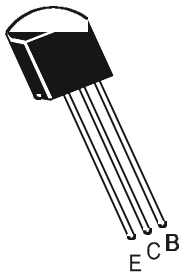
NPN SILICON PLANAR EPITAXIAL TRANSISTOR

CSC2002



TO-92
Plastic Package

Designed for use in Driver Stage of High Voltage Audio Equipments.

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

DESCRIPTION	SYMBOL	VALUE	UNITS
Collector Emitter Voltage	V_{CEO}	60	V
Collector Base Voltage	V_{CBO}	60	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	300	mA
Base Current	I_B	60	mA
Collector Power Dissipation	P_C	600	mW
Storage Temperature	T_{stg}	- 55 to +150	ºC
Junction Temperature	T_j	+150	ºC

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

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector Cut Off Current	I_{CBO}	V_{CB}=60V, I_E = 0			100	nA
Emitter Cut Off Current	I_{EBO}	V_{EB}=5V, I_C = 0			100	nA
DC Current Gain	h_{FE} (1) *	V_{CE}=1V, I_C=50mA V_{CE}=2V, I_C=300mA	90 30		400	
Collector Emitter Saturation Voltage	$V_{CE\ (sat)}$ *	I_C=300mA, I_B=30mA			0.6	V
Base Emitter Saturation Voltage	$V_{BE\ (sat)}$ *	I_C=300mA, I_B=30mA			1.2	V
Base Emitter Voltage	V_{BE} *	V_{CE}=6V, I_C=10mA	0.6		0.7	V
Transition Frequency	f_T	V_{CE}=6V, I_C= -10mA,	50			MHz
Collector to Base Capacitance	C_{ob}	I_E=0, V_{CB}=6V, f=1MHz			15	pF

*** Pulsed PW ≤350µs, Duty Cycle ≤2%**

h_{FE} (1) Classification	M : 90 - 180,	L : 135 - 270,	K : 200 - 400

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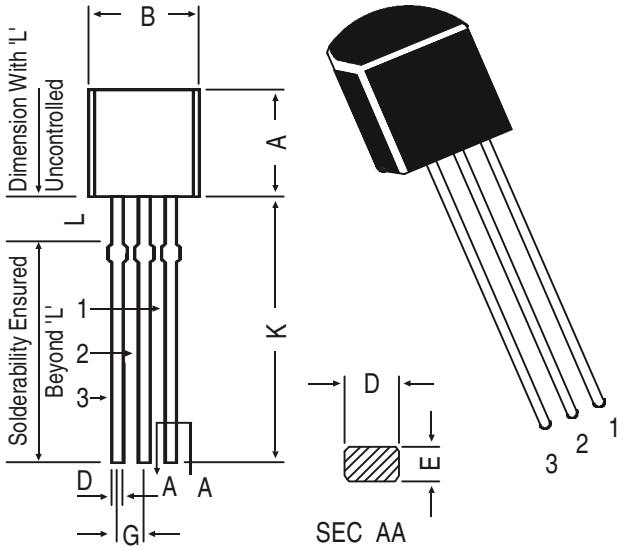
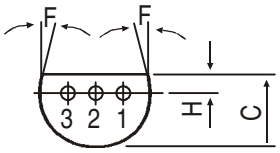


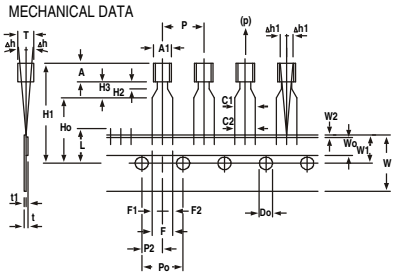


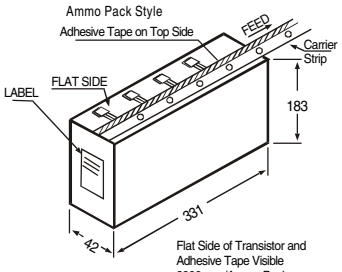
PIN CONFIGURATION
1. BASE
2. COLLECTOR
3. EMITTER

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





ITEM	SYMBOL	SPECIFICATION				REMARKS
		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		%%P1	
FEED HOLE PITCH	Po		12.7		%%P0.3	CUMULATIVE PITCH ERROR 1.0 mm/20 PITCH
FEED HOLE CENTRE TO COMPONENT CENTRE	P2		6.35		%%P0.4 +0.6	TO BE MEASURED AT BOTTOM OF CLINCH
DISTANCE BETWEEN OUTER LEADS	F		5.08		-0.2	
COMPONENT ALIGNMENT SIDE VIEW	△h		0	1.0		AT TOP OF BODY
COMPONENT ALIGNMENT FRONT VIEW	△h1		0	1.3		AT TOP OF BODY
TAPE WIDTH	W		18		%%P0.5	
HOLD-DOWN TAPE WIDTH	Wo		6		%%P0.2	
HOLE POSITION	W1		9		+0.7 -0.5	
HOLD-DOWN TAPE POSITION	W2		0.5		%%P0.2	
LEAD WIRE CLINCH HEIGHT	Ho		16		%%P0.5	
COMPONENT HEIGHT	H1			23.25		
LENGTH OF SNIPPED LEADS	L			11.0		
FEED HOLE DIAMETER	Do		4		%%P0.2	
TOTAL TAPE THICKNESS	t			1.2		t1 0.3 - 0.6
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 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 IS PERMITTED.
5. A TAPE TRAILER, HAVING AT LEAST THREE FEED HOLES IS 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

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