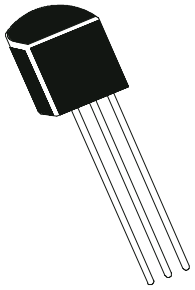
NPN COMPLEMENTARY SILICON HIGH VOLTAGE TRANSISTOR

CC5551
(9AW)
TO-92
BCE



MARKING : NCC 5551

High Voltage NPN Transistor for General Purpose and Telephony Applications

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector -Emitter Voltage	V_{CEO}	160	V
Collector -Base Voltage	V_{CBO}	180	V
Emitter -Base Voltage	V_{EBO}	6.0	V
Collector Current Continuous	I_C	600	mA
Power Dissipation @Ta=25°C	P_D	625	mW
Derate Above 25°C		5.0	mw/°C
Power Dissipation @Tc=25°C	P_D	1.5	W
Derate Above 25°C		12	mw/°C
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 to +150	°C
THERMAL RESISTANCE			
Junction to Case	$R_{th(j-c)}$	125	°C/W
Junction to Ambient	$R_{th(j-a)}$ (1)	357	°C/W

(1) $R_{th(j-a)}$ is measured with the device soldered into a typical printed circuit board

ELECTRICAL CHARACTERISTICS (Ta=25°C unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector -Emitter Voltage	V_{CEO}	I_C=1mA,I_B=0	160	-	-	V
Collector -Base Voltage	V_{CBO}	I_C=100µA.I_E=0	180	-	-	V
Emitter -Base Voltage	V_{EBO}	I_E=10µA, I_C=-0	6.0	-	-	V
Collector-Cut off Current	I_{CBO}	V_{CB}=160V, I_E=0	-	-	50	nA
		T_a=100°C				
		V_{CB}=160V, I_E=0	-	-	50	µA
Emitter-Cut off Current	I_{EBO}	V_{EB}=4V, I_C=0	-	-	50	nA
DC Current Gain	h_{FE*}	I_C=1mA,V_{CE}=5V	80	-	-	
		I_C=10mA,V_{CE}=5V	80	-	320	
		I_C=50mA,V_{CE}=5V	30	-	-	
Collector Emitter Saturation Voltage	$V_{CE(Sat)*}$	I_C=10mA,I_B=1mA	-	-	0.15	V
		I_C=50mA,I_B=5mA	-	-	0.2	V
Base Emitter Saturation Voltage	$V_{BE(Sat)*}$	I_C=10mA,I_B=1mA	-	-	1.0	V
		I_C=50mA,I_B=5mA	-	-	1.0	V

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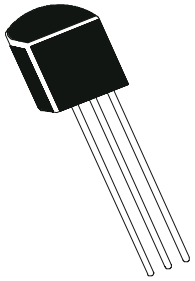
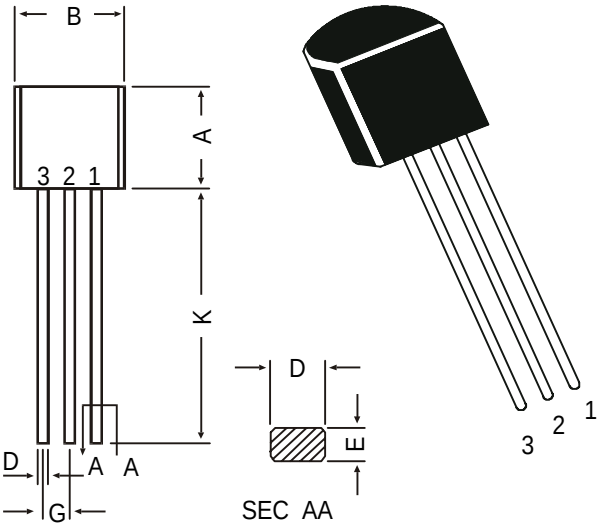


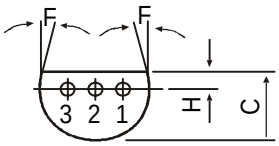
ELECTRICAL CHARACTERISTICS (Ta=25°C Unless Otherwise Specified) **CC5551**

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Dynamic Characteristics						
Small Signal Current Gain	h_{fe}	I_C=1mA, V_{CE}=10V f=1KHz	80	-	320	
Transition Frequency	f_t	V_{CE}=10V,I_C=10mA, f=100MHz	100	-	300	MHz
Output Capacitance	C_{ob}	V_{CB}=10V, I_E=0 f=1MHz	-	-	6.0	pF
Input Capacitance	C_{ib}	V_{EB}=0.5V, I_C=0 f=1MHz	-	-	20	pF
Noise Figure	N_F	V_{CE}=5V, I_C=250µA R_S=1kΩ, f=10Hz to 15.7kHz	-	-	8.0	dB

***Pulse Test: Pulse Width=300us, Duty Cycle=2%**

TO-92 Plastic Package



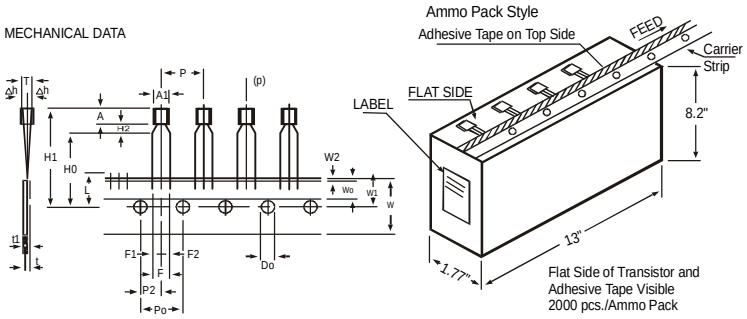


PIN CONFIGURATION
1. BASE
2. COLLECTOR
3. EMITTER

All diminsions in mm.

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	—

TO-92 Transistors on Tape and Ammo Pack



All dimensions in mm unless specified otherwise

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		±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"	5.0K	17" x 15" x 13.5"	80.0K	23 kgs
TO-92 T&A	2K/ammo box	645 gm/2K pcs	12.5" x 8" x 1.8"	2.0K	17" x 15" x 13.5"	32.0K	12.5 kgs

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Continental Device India Limited

C-120 Naraina Industrial Area, New Delhi 110 028, India.

Telephone + 91-11-579 6150 Fax + 91-11-579 9569, 579 5290

e-mail sales@cdil.com www.cdil.com

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