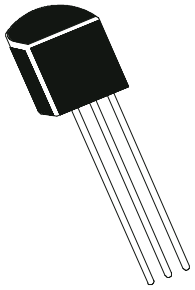
PNP COMPLEMENTARY SILICON HIGH VOLTAGE TRANSISTOR

2N5401
(9AW)
TO-92
CBE



MARKING: CD 5401

High Voltage PNP Transistor For General Purpose And Telephony Applications.

ABSOLUTE MAXIMUM RATINGS.

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector -Emitter Voltage	VCEO	150	V
Collector -Base Voltage	VCBO	160	V
Emitter -Base Voltage	VEBO	5.0	V
Collector Current Continuous	IC	600	mA
Power Dissipation @Ta=25 degC	PD	625	mW
Derate Above 25 deg C		5.0	mw/deg C
Power Dissipation @Tc=25 degC	PD	1.5	W
Derate Above 25 deg C		12	mw/deg C
Junction Temperature	Tj	150	deg C
Storage Temperature	Tstg	-55 to +150	deg C
THERMAL RESISTANCE			
Junction to Case	Rth(j-c)	83.3	deg C/W
Junction to Ambient	Rth(j-a)	200	deg C/W

ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Otherwise Specified)

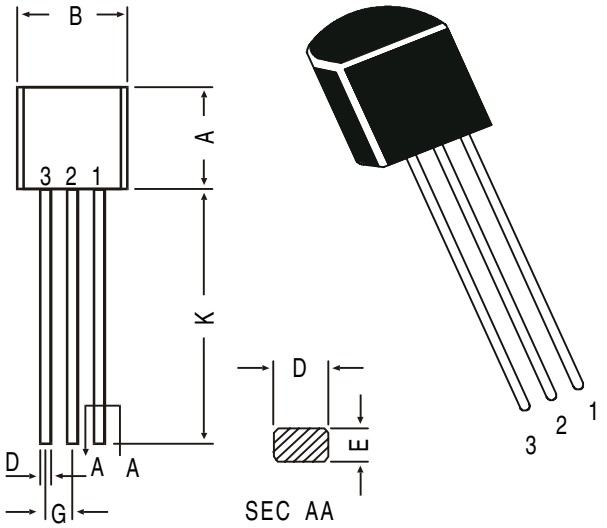
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector -Emitter Voltage	VCEO*	IC=1uA,IB=0	150	-	-	V
Collector -Base Voltage	VCBO	IC=100uA.IE=0	160	-	-	V
Emitter -Base Voltage	VEBO	IE=10uA, IC=-0	5.0	-	-	V
Collector-Cut off Current	ICBO	VCB=160V, IE=0	-	-	50	nA
		Ta=100 deg C				
		VCB=160V, IE=0	-	-	50	uA
	ICEO	VCE=150V, IB=0			1.0	uA
Emitter-Cut off Current	IEBO	VEB=4V, IC=0	-	-	50	nA
DC Current Gain	hFE*	IC=1mA,VCE=5V	50	-	-	
		IC=10mA,VCE=5V	80	-	320	
		IC=50mA,VCE=5V	50	-	-	

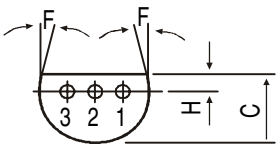
ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Otherwise Specified) **2N5401**

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Emitter Saturation Voltage	VCE(Sat)*	IC=10mA,IB=1mA	-	-	0.2	V
		IC=50mA,IB=5mA	-	-	0.5	V
Base Emitter Saturation Voltage	VBE(Sat) *	IC=10mA,IB=1mA	-	-	1.0	V
		IC=50mA,IB=5mA	-	-	1.0	V
Dynamic Characteristics						
Small Signal Current Gain	hfe	IC=1mA, VCE=10V f=1KHz	80	-	320	
Transition Frequency	ft	VCE=10V,IC=10mA, f=100MHz	100	-	300	MHz
Output Capacitance	Cobo	VCB=10V, IE=0 f=1MHz	-	-	6.0	pF
Noise Figure	NF	VCE=5V, IC=250uA Rs=1kohms, f=10Hz to 15.7kHz	-	-	8.0	dB

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

TO-92 Plastic Package



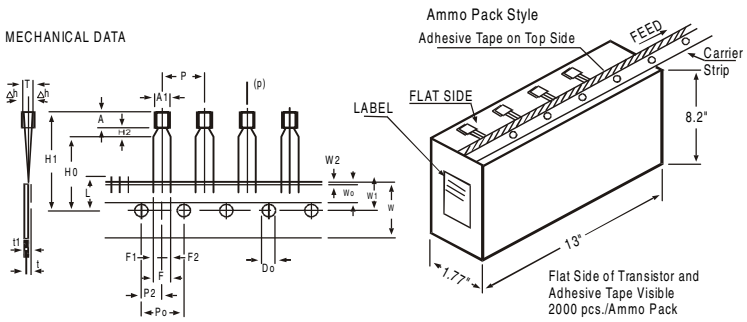


PIN CONFIGURATION
1. COLLECTOR
2. BASE
3. EMITTER

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 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 DISTANCE	F1, 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

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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