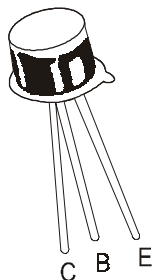


NPN SILICON PLANAR SWITCHING TRANSISTOR

2N720A



TO-18
Metal Can Package

ABSOLUTE MAXIMUM RATINGS (Ta=25°C unless specified otherwise)

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector Emitter Voltage	V_{CEO}	80	V
Collector - Emitter Voltage	V_{CER}	100	V
Collector Base Voltage	V_{CBO}	120	V
Emitter Base Voltage	V_{EBO}	7	V
Power Dissipation @Ta=25°C	P_D	500	mW
Derate Above 25°C		2.86	mW/°C
Power Dissipation @ Tc=25°C	P_D	1.8	W
Derate Above 25°C		10.3	mW/°C
Operating and Storage Junction Temperature Range	T_j, T_{stg}	-65 to +200	°C

THERMAL RESISTANCE

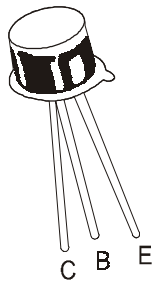
Junction to Case	$R_{th(j-c)}$	97	°C/W
------------------	---------------	----	------

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

DESCRIPTION	SYMBOL	TEST CONDITION	VALUE		UNIT
			MIN	MAX	
Collector Emitter Breakdown Voltage	$BV_{CEO(sus)}^*$	$I_C=30mA, I_B=0$	80		V
Collector Base Breakdown Voltage	BV_{CBO}	$I_C=100\mu A, I_E=0$	120		V
Emitter Base Breakdown Voltage	BV_{EBO}	$I_E=100\mu A, I_C=0$	7		V
Collector Cut off Current	I_{CBO}	$V_{CB}=90V, I_E=0$		10	nA
		$V_{CB}=90V, I_E=0$ $T_a=150^\circ C$		15	μA
Emitter Cut off Current	I_{EBO}	$V_{EB}=5V, I_C=0$		10	nA
Collector Emitter Saturation Voltage	$V_{CE(Sat)}^*$	$I_C=50mA, I_B=5mA$		1.2	V
		$I_C=150mA, I_B=15mA$		5.0	V
Base Emitter Saturation Voltage	$V_{BE(Sat)}^*$	$I_C=50mA, I_B=5mA$		0.9	V
		$I_C=150mA, I_B=15mA$		1.3	V

NPN SILICON PLANAR SWITCHING TRANSISTOR

2N720A



TO-18
Metal Can Package

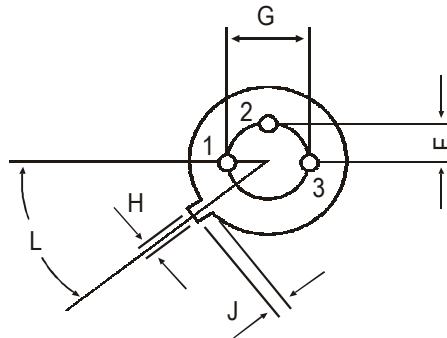
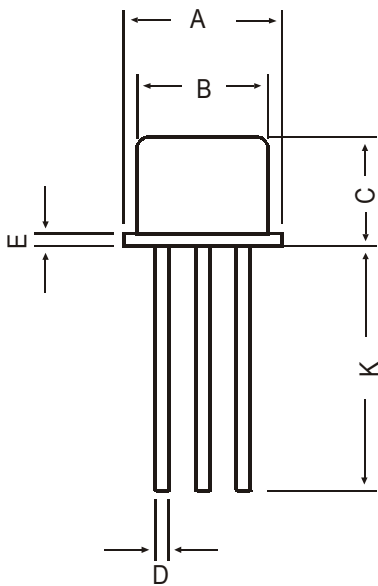
ELECTRICAL CHARACTERISTICS (Ta=25°C unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	VALUE		UNIT
			MIN	MAX	
DC Current Gain	h_{FE}	$I_C=0.1mA, V_{CE}=10V$	20		
		$I_C=10mA, V_{CE}=10V^*$	35		
		$I_C=10mA, V_{CE}=10V$	20		
		$T_a=55^{\circ}C$			
		$I_C=150mA, V_{CE}=10V^*$	40	120	
<u>DYNAMIC CHARACTERISTICS</u>					
Small Signal Current Gain	$ h_{fe} $	$I_C=1mA, V_{CE}=5V$	30	100	
		$f=1KHz$			
		$I_C=5mA, V_{CE}=10V$	45		
		$f=1KHz$			
Input Impedance	h_{ib}	$I_C=1mA, V_{CE}=5V$	20	30	Ω
		$f=1KHz$			
		$I_C=5mA, V_{CE}=10V$	4	8	Ω
		$f=1KHz$			
Voltage Feedback Ratio	h_{rb}	$I_C=1mA, V_{CE}=5V$		1.25	$\times 10^{-4}$
		$f=1KHz$			
		$I_C=1mA, V_{CE}=10V$		1.50	$\times 10^{-4}$
		$f=1KHz$			
Out put Admittance	h_{ob}	$I_C=1mA, V_{CE}=5V$		0.5	$\mu mhos$
		$f=1KHz$			
		$I_C=1mA, V_{CE}=10V$		0.5	$\mu mhos$
		$f=1KHz$			
Transition Frequency	f_T	$I_C=50mA, V_{CE}=10V$	50		MHz
		$f=20MHz$			
Output Capacitance	C_{ob}	$V_{CB}=10V, I_E=0$		15	pF
		$f=100kHz$			
Input Capacitance	C_{ib}	$V_{EB}=0.5V, I_C=0$		85	pF
		$f=100kHz$			

*Pulse Condition: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$

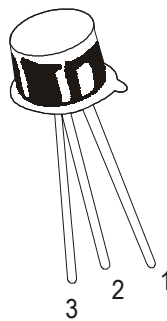
TO-18
Metal Can Package

TO-18 Metal Can Package



All dimensions in mm.

DIM	MIN	MAX
A	5.24	5.84
B	4.52	4.97
C	4.31	5.33
D	0.40	0.53
E	—	0.76
F	—	1.27
G	—	2.97
H	0.91	1.17
J	0.71	1.21
K	12.70	—
L	45 DEG	



PIN CONFIGURATION

1. EMITTER
2. BASE
3. COLLECTOR

Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-18	1K/polybag	350 gm/1K pcs	3" x 7.5" x 7.5"	5K	17" x 15" x 13.5"	80K	34 kgs

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).

CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.



CDIL is a registered Trademark of

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