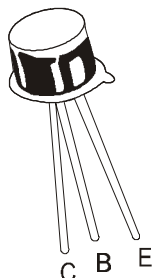


SILICON PLANAR TRANSISTORS



BC393 PNP
BC394 NPN

TO-18
Metal Can Package

High Voltage Transistors

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	BC393	BC394	UNIT
Collector Emitter Voltage	V_{CEO}	180	180	V
Collector Base Voltage	V_{CBO}	180	180	V
Emitter Base Voltage	V_{EBO}	6		V
Collector Current Continuous	I_C	0.50		A
Power Dissipation @ $T_a=25^\circ\text{C}$ Derate Above 25°C	P_D	0.40 2.27		W mW/ $^\circ\text{C}$
Power Dissipation @ $T_c=25^\circ\text{C}$ Derate Above 25°C	P_D	1.40 8.00		W mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 65 to +200		$^\circ\text{C}$

THERMAL CHARACTERISTICS

Junction to Ambient in free air	$R_{th(j-a)}$	440	$^\circ\text{C/W}$
Junction to Case	$R_{th(j-c)}$	125	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Emitter Voltage	V_{CEO}	$I_C=10\text{mA}, I_B=0$	180			V
Collector Base Voltage	V_{CBO}	$I_C=100\mu\text{A}, I_E=0$	180			V
Emitter Base Voltage	V_{EBO}	$I_E=100\mu\text{A}, I_C=0$	6			V
Collector Cut off Current	I_{CBO}	$V_{CB}=100\text{V}, I_E=0$			50	nA
Collector Cut off Current	I_{CEO}	$V_{CE}=100\text{V}, I_B=0, T_a=150^\circ\text{C}$			50	μA
DC Current Gain	h_{FE}	$I_C=10\text{mA}, V_{CE}=10\text{V}$	50			
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.3	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.9	V

*Pulse Test: Pulse width=300ms, Duty cycle = 2%

DYNAMIC CHARACTERISTICS

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Transition frequency	f_T	$I_C=20\text{mA}, V_{CE}=20\text{V}, f=20\text{MHz}$	50		200	MHz
Output Capacitance	C_{ob}	$V_{CB}=20\text{V}, I_E=0, f=1\text{MHz}$			7	pF
Input Capacitance	C_{ib}	$V_{EB}=0.5\text{V}, I_C=0, f=1\text{MHz}$		75		pF

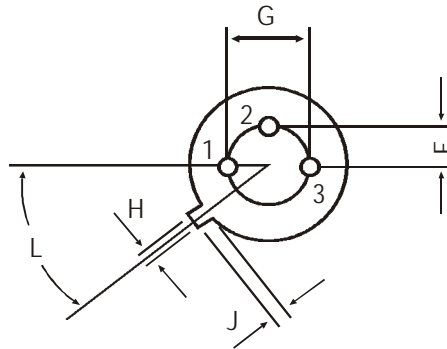
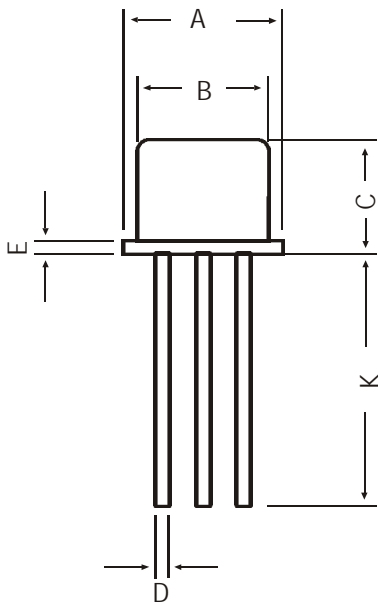
SWITCHING TIMES

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Turn on Time	t_{on}	$I_C=50\text{mA}, I_{B1}=10\text{mA}, V_{CC}=100\text{V}$		100		ns
Turn off Time	t_{off}	$I_C=50\text{mA}, I_{B2}=10\text{mA}, V_{CC}=100\text{V}$		400		ns

BC393 PNP
BC394 NPN

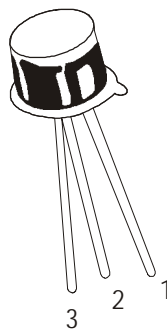
TO-18
Metal Can Package

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 Details

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 are 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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