ISO 14001

SILICON PLANAR TRANSISTORS
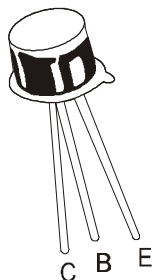
BC393   PNP
BC394   NPN

TO-18
Metal Can Package

C   B   E

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=25ºC	P_D	0.40		W
Derate Above 25ºC		2.27		mW/ ºC
Power Dissipation @ T_c=25ºC	P_D	1.40		W
Derate Above 25ºC		8.00		mW/ ºC
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 65 to +200		ºC

THERMAL CHARACTERISTICS

Junction to Ambient in free air	$R_{th (j-a)}$	440	ºC/W
Junction to Case	$R_{th (j-c)}$	125	ºC/W

ELECTRICAL CHARACTERISTICS (T_a=25ºC unless specified otherwise)

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

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

DYNAMIC CHARACTERISTICS

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

SWITCHING TIMES

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

BC393 PNP
BC394 NPN

TO-18
Metal Can Package

TO-18 Metal Can Package
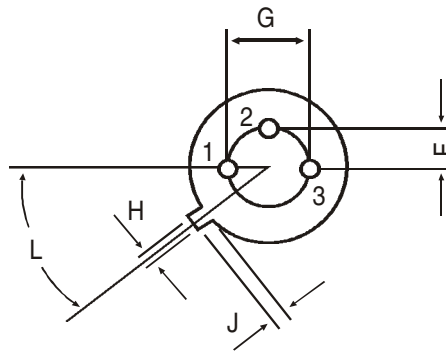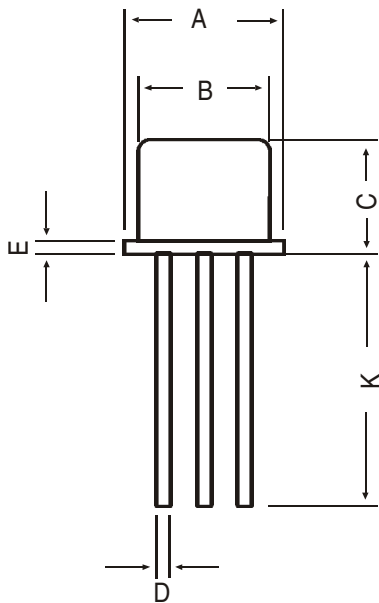
DIM	MIN	MAX
A	5.24	5.84
B	4.52	4.97
C	4.31	5.33
D	0.40	0.53
E	—	0.76
F	—	1.27
G	—	2.97
H	0.91	1.17
J	0.71	1.21
K	12.70	—
L	45 DEG	

All dimensions in mm.
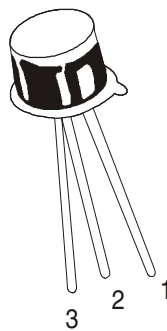
PIN CONFIGURATION

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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