

**TO-220 Plastic Package**

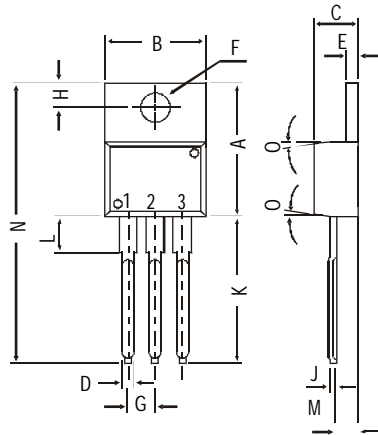
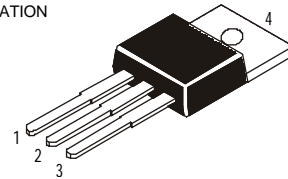
**CSA940, CSC2073**

**CSA940 PNP PLASTIC POWER TRANSISTOR**

**CSC2073 NPN PLASTIC POWER TRANSISTOR**

*Power Amplifier Applications and Vertical Output Applications*

PIN CONFIGURATION  
 1. BASE  
 2. COLLECTOR  
 3. EMITTER  
 4. COLLECTOR



DIM	MIN.	MAX.
A	14.42	16.51
B	9.63	10.67
C	3.56	4.83
D		0.90
E	1.15	1.40
F	3.75	3.88
G	2.29	2.79
H	2.54	3.43
J		0.56
K	12.70	14.73
L	2.80	4.07
M	2.03	2.92
N		31.24
O		DEG 7

All dimensions in mm.

**ABSOLUTE MAXIMUM RATINGS**

Collector-base voltage (open emitter)	$V_{CB0}$	max.	150 V
Collector-emitter voltage (open base)	$V_{CE0}$	max.	150 V
Collector current	$I_C$	max.	1.5 A
Total power dissipation up to $T_C = 25^\circ C$	$P_{tot}$	max.	25 W
Junction temperature	$T_j$	max.	150 °C
Collector-emitter saturation voltage $I_C = 500 \text{ mA}; I_B = 50 \text{ mA}$	$V_{CEsat}$	max.	1.5 V
D.C. current gain $I_C = 500 \text{ mA}; V_{CE} = 10 \text{ V}$	$h_{FE}$	min.	40
		max.	140

**RATINGS** (at  $T_A=25^\circ C$  unless otherwise specified)

<i>Limiting values</i>			
Collector-base voltage (open emitter)	$V_{CB0}$	max.	150 V
Collector-emitter voltage (open base)	$V_{CE0}$	max.	150 V
Emitter-base voltage (open collector)	$V_{EBO}$	max.	5.0 V

Collector current	$I_C$	max.	1.5 A
Base current	$I_B$	max.	0.5 A
Total power dissipation up to $T_C = 25^\circ\text{C}$	$P_{tot}$	max.	25 W
Total power dissipation up to $T_A = 25^\circ\text{C}$	$P_{tot}$	max.	1.5 W
Junction temperature	$T_j$	max.	150 °C
Storage temperature	$T_{stg}$		-65 to +150 °C

**CHARACTERISTICS**

$T_{amb} = 25^\circ\text{C}$  unless otherwise specified

Collector cutoff current

$I_E = 0; V_{CB} = 120\text{ V}$

$I_{CBO}$  max. 10  $\mu\text{A}$

Emitter cut-off current

$I_C = 0; V_{EB} = 5\text{ V}$

$I_{EBO}$  max. 10  $\mu\text{A}$

Breakdown voltages

$I_C = 1\text{ mA}; I_B = 0$

$V_{CEO}$  min. 150 V

$I_C = 1\text{ mA}; I_E = 0$

$V_{CBO}$  min. 150 V

$I_E = 1\text{ mA}; I_C = 0$

$V_{EBO}$  min. 5.0 V

Saturation voltages

$I_C = 500\text{ mA}; I_B = 50\text{ mA}$

$V_{CEsat}$  max. 1.5 V

Base emitter on voltage

$I_C = 500\text{ mA}; V_{CE} = 10\text{ V}$

$V_{BE(on)}$  min. 0.65 V

max. 0.85 V

D.C. current gain

$I_C = 500\text{ mA}; V_{CE} = 10\text{ V}$

$h_{FE}$  min. 40

max. 140

Output capacitance at  $f = 1\text{ MHz}$

$I_E = 0; V_{CB} = 10\text{ V}$  **NPN**

$C_o$  typ. 35 pF

**PNP**

typ. 55 pF

Transition frequency

$I_C = 500\text{ mA}; V_{CE} = 10\text{ V}$

$f_T$  typ. 4 MHz

## Customer 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 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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