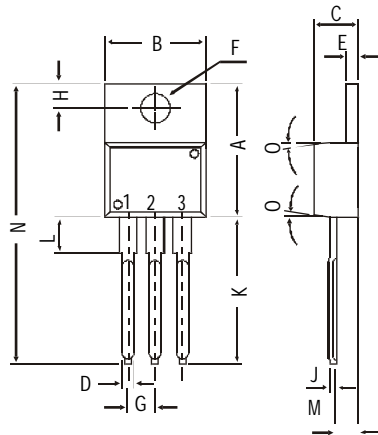
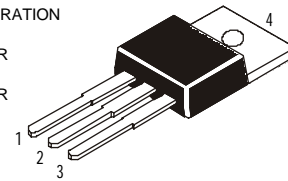


TO-220 Plastic Package

**CSB857, CSB858
 CSD1133, CSD1134**

*CSB857, 858 PNP PLASTIC POWER TRANSISTORS
 CSD1133, 1134 NPN PLASTIC POWER TRANSISTORS
 Low frequency Power Amplifier*

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

		857	858
		1133	1134
Collector-base voltage (open emitter)	V_{CBO}	max. 70	70 V
Collector-emitter voltage (open base)	V_{CEO}	max. 50	60 V
Collector current	I_C	max.	4.0 A
Total power dissipation up to $T_C = 25^\circ\text{C}$	P_{tot}	max.	40 W
Junction temperature	T_j	max.	150 $^\circ\text{C}$
Collector-emitter saturation voltage	V_{CEsat}	max.	1.0 V
$I_C = 2\text{ A}; I_B = 200\text{ mA}$			
D.C. current gain	h_{FE}	min.	60
$I_C = 1\text{ A}; V_{CE} = 4\text{ V}$		max.	320

RATINGS (at $T_A=25^\circ\text{C}$ unless otherwise specified)

		857	858
		1133	1134
Limiting values			
Collector-base voltage (open emitter)	V_{CBO}	max. 70	70 V
Collector-emitter voltage (open base)	V_{CEO}	max. 50	60 V
Emitter-base voltage (open collector)	V_{EBO}	max.	5.0 V

CSB857, CSB858
CSD1133, CSD1134

Collector current	I_C	max.	4.0	A
Collector current (Peak value)	I_C	max.	8.0	A
Total power dissipation up to $T_C = 25^\circ\text{C}$	P_{tot}	max.	40	W
Junction temperature	T_j	max.	150	$^\circ\text{C}$
Storage temperature	T_{stg}		-65 to +150	$^\circ\text{C}$

CHARACTERISTICS

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

			857	858
			1133	1134
Collector cutoff current				
$I_E = 0; V_{CB} = 50\text{V}$	I_{CBO}	max.	1.0	μA
Breakdown voltages				
$I_C = 50\text{ mA}; I_B = 0$	V_{CEO}	min.	50	60 V
$I_C = 10\ \mu\text{A}; I_E = 0$	V_{CBO}	min.	70	V
$I_E = 10\ \mu\text{A}; I_C = 0$	V_{EBO}	min.	5.0	V
Saturation voltage				
$I_C = 2\text{ A}; I_B = 0.2\text{ A}$	V_{CEsat}^*	max.	1.0	V
Base emitter on voltage				
$I_C = 1\text{ A}; V_{CE} = 4\text{ V}$	$V_{BE(on)}^*$	max.	1.0	V
D.C. current gain				
$I_C = 0.1\text{ A}; V_{CE} = 4\text{ V}$	h_{FE}^*	min.	35	
$I_C = 1.0\text{ A}; V_{CE} = 4\text{ V}^{**}$	h_{FE}^*	min.	60	
		max.	320	
Transition frequency				
$I_C = 0.5\text{ A}; V_{CE} = 4\text{ V}$	f_T	typ.	15	MHz
		typ.	7.0	MHz

**** h_{FE} classification: B: 60-120 C: 100-200 D: 160-320**

* Pulse test

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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