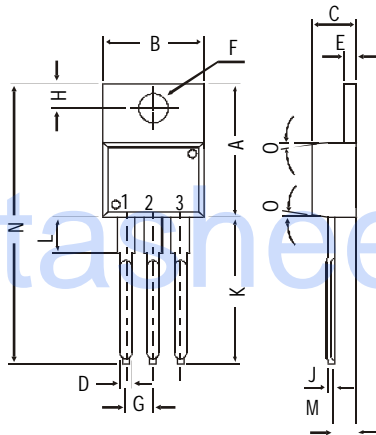
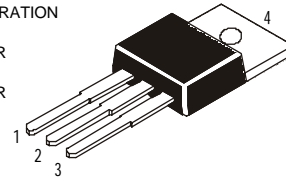


**TO-220 Plastic Package**

**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**

		<b>857</b>	<b>858</b>
		<b>1133</b>	<b>1134</b>
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 $T_C = 25^\circ C$	$P_{tot}$	max.	40 W
Junction temperature	$T_j$	max.	150 $^\circ C$
Collector-emitter saturation voltage			
$I_C = 2 A; I_B = 200 mA$	$V_{CEsat}$	max.	1.0 V
D.C. current gain			
$I_C = 1 A; V_{CE} = 4 V$	$h_{FE}$	min.	60
		max.	320

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

		<b>857</b>	<b>858</b>
		<b>1133</b>	<b>1134</b>
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

			<b>857</b>	<b>858</b>
			<b>1133</b>	<b>1134</b>
Collector cutoff current				
$I_E = 0; V_{CB} = 50\text{V}$	$I_{CBO}$	max.	1.0	$\mu\text{A}$
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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