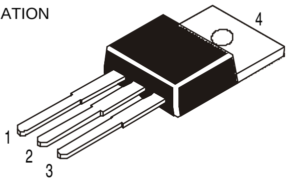
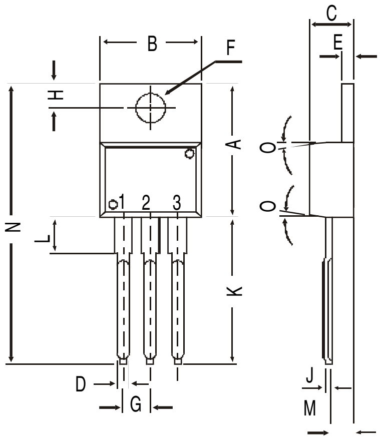
TO-220 Plastic Package **CSB857, CSB858**
CSD1133, CSD1134

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 diminsions in mm.

ABSOLUTE MAXIMUM RATINGS

			857 ***1133***	***858*** ***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 $T_C = 25°C$	P_{tot}	*max.*	*40*		*W*
Junction temperature	T_j	*max.*	*150*		*°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°C unless otherwise specified)*

Limiting values

			857 ***1133***	***858*** ***1134***	
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*

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

CHARACTERISTICS

$T_{amb} = 25°C$ *unless otherwise specified*

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

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

** Pulse test*

Notes

Disclaimer

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Continental Device India Limited
C-120 Naraina Industrial Area, New Delhi 110 028, India.
Telephone + 91-11-2579 6150, 5141 1112   Fax + 91-11-2579 5290, 5141 1119
email@cdil.com   www.cdilsemi.com