



Continental Device India Limited

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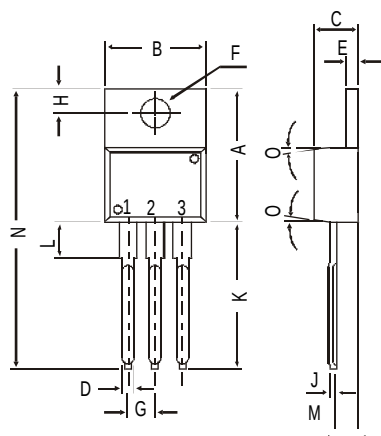
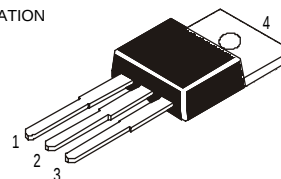
**TO-220 Plastic Package****CSA968, CSA968A, CSA968B****CSA968, 968A, 968B PNP PLASTIC POWER TRANSISTORS**

Complementary CSC2238, 2238A, 2238B

Power Amplifier Applications and Driver Stage Amplifier 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)
 Collector-emitter voltage (open base)
 Collector current
 Total power dissipation up to $T_C = 25^\circ\text{C}$
 Junction temperature
 Collector-emitter saturation voltage
 $I_C = 500\text{ mA}$; $I_B = 50\text{ mA}$
 D.C. current gain
 $I_C = 100\text{ mA}$; $V_{CE} = 5\text{ V}$

		968 968A 968B			
V_{CBO}	max.	160	180	200	V
V_{CEO}	max.	160	180	200	V
I_C	max.		1.5		A
P_{tot}	max.		25		W
T_j	max.		150		$^\circ\text{C}$
V_{CEsat}	max.		1.5		V
h_{FE}	min		70		
	max.		240		

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

Limiting values

		968 968A 968B			
Collector-base voltage (open emitter)	V_{CBO}	max.	160	180	200 V
Collector-emitter voltage (open base)	V_{CEO}	max.	160	180	200 V
Emitter-base voltage (open collector)	V_{EBO}	max.	5.0		V

CSA968, CSA968A, CSA968B

Collector current	I_C	max.	1.5	A
Emitter current	I_E	max.	1.5	A
Total power dissipation up to $T_C = 25^\circ\text{C}$	P_{tot}	max.	25	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

			968	968A	968B	
Collector cutoff current $I_E = 0; V_{CB} = 160\text{ V}$	I_{CBO}	max.	1.0			μA
Emitter cut-off current $I_C = 0; V_{EB} = 5\text{ V}$	I_{EBO}	max.	1.0			μA
Breakdown voltages $I_C = 10\text{ mA}; I_B = 0$	V_{CEO}	min.	160	180	200	V
$I_C = 1\text{ mA}; I_E = 0$	V_{CBO}	min.	160	180	200	V
$I_E = 1\text{ mA}; I_C = 0$	V_{EBO}	min.	5.0			V
Saturation voltage $I_C = 500\text{ mA}; I_B = 50\text{ mA}$	V_{CEsat}	max.	1.5			V
Base emitter on voltage $I_C = 500\text{ mA}; V_{CE} = 5\text{ V}$	$V_{BE(on)}$	max.	1.0			V
D.C. current gain $I_C = 100\text{ mA}; V_{CE} = 5\text{ V}^{**}$	h_{FE}	min.	70			
		max.	240			
Output capacitance at $f = 1\text{ MHz}$ $I_E = 0; V_{CB} = 10\text{ V}$	C_o	typ.	30			pF
Transition frequency $I_C = 100\text{ mA}; V_{CE} = 10\text{ V}$	f_T	typ.	100			MHz

**** h_{FE} classification: O: 70-140 Y: 120-240**

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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