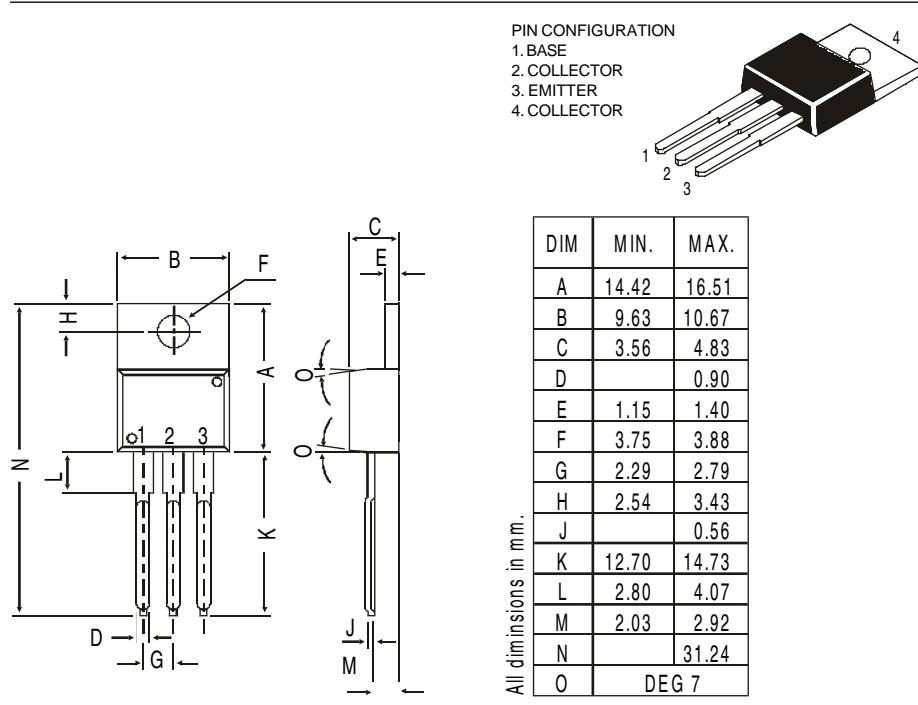


TO-220 Plastic Package

CSC2238, CSC2238A, CSC2238B

CSC2238, 2238A, 2238B NPN PLASTIC POWER TRANSISTORS
Complementary 2SA968, 968A, 968B
Power Amplifier and Driver Stage Amplifier Applications



ABSOLUTE MAXIMUM RATINGS

		2238	2238A	2238B
Collector-base voltage (open emitter)	V_{CBO}	max.	160	180
Collector-emitter voltage (open base)	V_{CEO}	max.	160	180
Collector current	I_C	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	$^\circ\text{C}$
Collector-emitter saturation voltage $I_C = 500 \text{ mA}; I_B = 50 \text{ mA}$	V_{CEsat}	max.	1.5	V
D.C. current gain $I_C = 100 \text{ mA}; V_{CE} = 5 \text{ V}$	h_{FE}	min max.	70 240	

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

Limiting values	2238	2238A	2238B
Collector-base voltage (open emitter)	V_{CBO}	max.	160
Collector-emitter voltage (open base)	V_{CEO}	max.	160
Emitter-base voltage (open collector)	V_{EBO}	max.	5.0
Collector current	I_C	max.	1.5

CSC2238, CSC2238A, CSC2238B

<i>Emitter current</i>	I_E	<i>max.</i>	-1.5	A
<i>Total power dissipation up to $T_C = 25^\circ\text{C}$</i>	P_{tot}	<i>max.</i>	25	W
<i>Junction temperature</i>	T_j	<i>max.</i>	150	$^\circ\text{C}$
<i>Storage temperature</i>	T_{stg}		-65 to +150	$^\circ\text{C}$

CHARACTERISTICS

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

			2238	2238A	2238B
<i>Collector cutoff current</i>					
$I_E = 0; V_{CB} = 160$	I_{CBO}	<i>max.</i>	1.0	μA	
<i>Emitter cut-off current</i>					
$I_C = 0; V_{EB} = 5\text{V}$	I_{EBO}	<i>max.</i>	1.0	μA	
<i>Breakdown voltages</i>					
$I_C = 10\text{ mA}; I_B = 0$	V_{CEO}	<i>min.</i>	160	180	200
$I_C = 1\text{ mA}; I_E = 0$	V_{CBO}	<i>min.</i>	160	180	200
$I_E = 1\text{ mA}; I_C = 0$	V_{EBO}	<i>min.</i>		5.0	V
<i>Saturation voltage</i>					
$I_C = 500\text{ mA}; I_B = 50\text{ mA}$	V_{CEsat}	<i>max.</i>	1.5	V	
<i>Base emitter on voltage</i>					
$I_C = 500\text{ mA}; V_{CE} = 5\text{ V}$	$V_{BE(on)}$	<i>max.</i>	1.0	V	
<i>D.C. current gain</i>					
$I_C = 100\text{ mA}; V_{CE} = 5\text{ V}^{**}$	h_{FE}	<i>min.</i>	70		
		<i>max.</i>	240		
<i>Output capacitance at $f = 1\text{ MHz}$</i>					
$I_E = 0; V_{CB} = 10\text{ V}$	C_o	<i>typ.</i>	25	pF	
<i>Transition frequency</i>					
$I_C = 100\text{ mA}; V_{CE} = 10\text{ V}$	f_T	<i>typ.</i>	100	MHz	

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

Customer Notes

Disclaimer

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