



### TO-126 (SOT-32) Plastic Package

CSB631, CSB631K CSD600, CSD600K

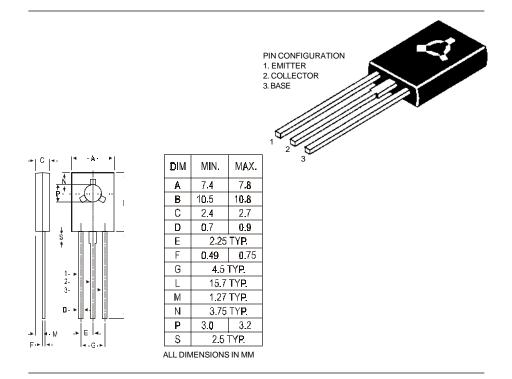
*631* 

max. 100

631K

120 V

# CSB631, 631KPNP PLASTIC POWER TRANSISTORSCSD600, 600KNPN PLASTIC POWER TRANSISTORSLow frequency Power Amplifier and Medium Speed Switching Applications



#### ABSOLUTE MAXIMUM RATINGS

Collector-emitter voltage (open base)

			600 600K		)K
Collector-base voltage (open emitter)	$V_{CBO}$	max.	100	120	V
Collector-emitter voltage (open base)	$V_{CEO}$	max.	100	120	V
Collector current	$I_C$	max.	1.	0	Α
Total power dissipation up to $T_C = 25^{\circ}C$	$P_C$	max.	8.0		W
Junction temperature	$T_i$	max.	15	50	$^{\circ}\!C$
Collector-emitter saturation voltage	5				
$I_C = 0.5 \ A; \ I_B = 50 \ mA$	V <sub>CEsat</sub>	max.	0.4		V
D.C. current gain					
$I_C = 50 \text{ mA}; V_{CE} = 5 V$	h <sub>FE</sub>	min.	60		
		max.	32	20	
<b>RATINGS</b> (at $T_A=25^{\circ}C$ unless otherwise specified	)				
Limiting values					
Collector-base voltage (open emitter)	$V_{CBO}$	max.	100	120	V

 $V_{CEO}$ 

## CSB631, CSB631K CSD600, CSD600K

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631K

			(	600	60	0K
Emitter-base voltage (open collector)		$V_{EBO}$	max.	5	.0	V
Collector current		$I_C$	max.	1	.0	A
Collector current (peak)		I <sub>CP</sub>	max.	2	.0	mA
Total power dissipation up to $T_A =$	25°C	$P_C$	max.	1	.0	W
Total power dissipation up to $T_C$ =	25°C	$P_C$	max.	8	.0	W
Junction temperature		$T_j$	max.	15	50	⁰С
Storage temperature		$\check{T}_{stg}$	-65 to +150 °C		⁰С	
CHARACTERISTICS						
$T_{amb} = 25^{\circ}C$ unless otherwise specified	fied					
			631 631K 600 600K			
Collector cutoff current			•		20	
$I_E = 0; V_{CB} = 50 V$		I <sub>CBO</sub>	max.	1	.0	$\mu A$
Emitter cut-off current						
$I_{C} = 0; V_{EB} = 4 V$		I <sub>EBO</sub>	max.	1	.0	$\mu A$
Breakdown voltages						
$I_C = 1 mA; I_B = 0$		$V_{CEO}$	min.	100	120	V
$I_C = 10 \ \mu A; \ I_E = 0$		$V_{CBO}$	min.	100	120	V
$I_E = 10 \ \mu A; \ I_C = 0$		$V_{EBO}$	min.	5	.0	V
Saturation voltages						
$I_C = 500 \text{ mA}; I_B = 50 \text{ mA}$		V <sub>CEsat</sub>	max.	0	.4	V
		V <sub>BEsat</sub>	max.	1	.2	V
D.C. current gain						
$I_C = 50 \text{ mA}; V_{CE} = 5 V$		$h_{FE}^*$	min.	6	80	
			max.	32	20	
$I_C = 500 \text{ mA}; V_{CE} = 5 \text{ V}$		h <sub>FE</sub>	min.	2	20	
Transition frequency						
$I_C = 50 \text{ mA}; V_{CE} = 10 \text{ V}$	PNP	$f_T$	typ.	11	0	MHz
-	NPN		typ.	13	80	MHz
Output capacitance						
$V_{CB} = 10 V; I_E = 0; f = 1 MHz$	PNP	Cob	typ.	3	80	pF
	NPN	Cab	typ.	2	20	pF

\* h<sub>FE</sub> classification: D60 - 120, E = 100 - 200, F 160 - 320

**Customer Notes** 

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Data Sheet