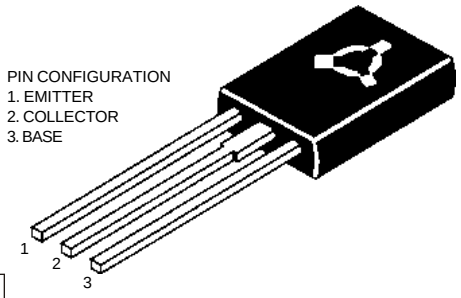
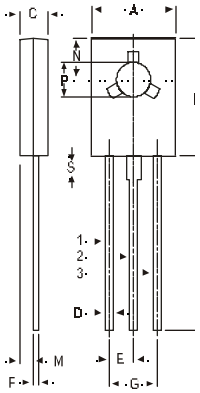
TO-126 (SOT-32) Plastic Package **C42C2**

C42C2 NPN PLASTIC POWER TRANSISTOR

Complementary C43C series
General Purpose Applications





DIM	MIN.	MAX.
A	7.4	7.8
B	10.5	10.8
C	2.4	2.7
D	0.7	0.9
E	2.25 TYP.	
F	0.49	0.75
G	4.5 TYP.	
L	15.7 TYP.	
M	1.27 TYP.	
N	3.75 TYP.	
P	3.0	3.2
S	2.5 TYP.	

ALL DIMENSIONS IN MM

ABSOLUTE MAXIMUM RATINGS

Collector-emitter voltage (V_{BE}=0)	V_{CES}	*max.*	*40 V*
Collector-emitter voltage (open base)	V_{CEO}	*max.*	*30 V*
Collector current	I_C	*max.*	*3 A*
Total power dissipation up to T_C = 25°C	P_{tot}	*max.*	*12.5 W*
Junction temperature	T_j	*max.*	*150 °C*
Collector-emitter saturation voltage			
I_C = 1 A; I_B = 50 mA	V_{CEsat}	*max.*	*0.5 V*
D.C. current gain			
I_C = 200 mA; V_{CE} = 1 V	h_{FE}	*min.*	*100*
		max.	*220*

RATINGS *(at T_A=25°C unless otherwise specified)*

Limiting values			
Collector-emitter voltage (V_{BE}=0)	V_{CES}	*max.*	*40 V*
Collector-emitter voltage (open base)	V_{CEO}	*max.*	*30 V*
Emitter-base voltage (open collector)	V_{EBO}	*max.*	*5.0 V*
Collector current (DC)	I_C	*max.*	*3.0 A*

*Collector current (Peak)**	I_{CM}	*max.*	*5 A*
Base current	I_B	*max.*	*2 A*
Total power dissipation up to T_A = 25°C	P_{tot}	*max.*	*2.1 W*
Total power dissipation up to T_C = 25°C	P_{tot}	*max.*	*12.5 W*
Junction temperature	T_j	*max.*	*150 °C*
Storage temperature	T_{stg}	*–65 to +150*	*°C*

THERMAL RESISTANCE

From junction to case	$R_{th\ j-c}$	=	*10 °C/W*
From junction to ambient	$R_{th\ j-a}$	=	*60 °C/W*

CHARACTERISTICS

T_c = 25°C unless otherwise specified

Collector cutoff current			
V_{BE} = 0; V_{CE} = Rated V_{CES}	I_{CES}	*max.*	*10 µA*
Emitter cut-off current			
I_C = 0; V_{EB} = 5 V	I_{EBO}	*max.*	*100 µA*
Breakdown sus. voltages			
I_C = 100 mA; I_B = 0	$V_{CEO(sus)}$*	*min.*	*30 V*
Saturation voltages			
I_C = 1 A; I_B = 50 mA	V_{CEsat}*	*max.*	*0.5 V*
I_C = 1 A; I_B = 100 mA	V_{BEsat}*	*max.*	*1.3 V*
D.C. current gain			
I_C = 200 mA; V_{CE} = 1 V	h_{FE}*	*min.*	*100*
		max.	*220*
I_C = 2 A; V_{CE} = 1 V	h_{FE}*	*min.*	*20*
Transition frequency			
I_C = 20 mA; V_{CE} = 4 V	f_T	*typ.*	*50 MHz*
Collector capacitance			
V_{CB} = 10 V; I_E = 0; f = 1 MHz	C_{cbo}	*max.*	*100 pF*

Switching time

Delay time + Rise time			
I_C = 1 A; I_{B1} = I_{B2} = 0.1 A	t_d+t_r	*typ.*	*100 ns*

Storage time + Fall time

V_{CC} = 30 V; t_p = 25 µsec	t_s	*typ.*	*500 ns*
	t_f	*typ.*	*75 ns*

** Pulsed test: P_W = 300 ms; duty cycle = 2%.*

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 is 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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