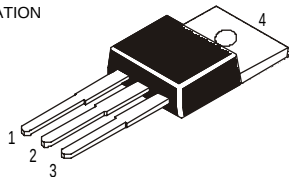
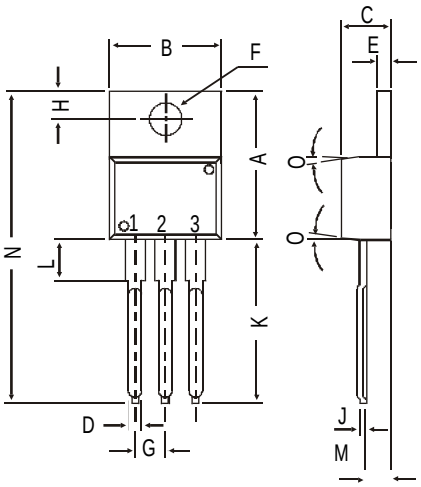
TO-220 Plastic Package **CSC2335**

CSC2335 NPN PLASTIC POWER TRANSISTOR

High Speed, High Voltage Switching

PIN CONFIGURATION
1. BASE
2. COLLECTOR
3. EMITTER
4. COLLECTOR





All diminsions in mm.

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	

ABSOLUTE MAXIMUM RATINGS

Collector-base voltage (open emitter)	V_{CBO}	*max.*	*500 V*
Collector-emitter voltage (open base)	V_{CEO}	*max.*	*400 V*
Collector current (D.C.)	I_C	*max.*	*7.0 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 = 3A; I_B = 0.6A	V_{CEsat}	*max.*	*1.0 V*
D.C. current gain			
I_C = 0.1A; V_{CE} = 5V	h_{FE}	*min.*	*20*
		max.	*80*

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

Limiting values

Collector-base voltage (open emitter)	V_{CBO}	*max.*	*500 V*
Collector-emitter voltage (open base)	V_{CEO}	*max.*	*400 V*
Emitter-base voltage (open collector)	V_{EBO}	*max.*	*7.0 V*
Collector current (DC)	I_C	*max.*	*7.0 A*

Collector current (Pulse value) (1)	I_C	*max.*	*15 A*
Base current (DC)	I_B	*max.*	*3.5 A*
Total power dissipation up to T_C = 25°C	P_{tot}	*max.*	*40 W*
Total power dissipation up to T_A = 25°C	P_{tot}	*max.*	*1.5 W*
Junction temperature	T_j	*max.*	*150 ℃*
Storage temperature	T_{stg}		*–65 to +150 ℃*

THERMAL CHARACTERISTICS

From junction to case	$R_{th\ j-c}$		*3.125 °C/W*

CHARACTERISTICS

T_{amb} = 25°C unless otherwise specified

Collector cutoff current			
I_E = 0; V_{CB} = 400V	I_{CBO}	*max.*	*10 μA*
R_{BE} = 51Ω; V_{CE} = 400V; T_A = 125°C	I_{CER}	*max.*	*1.0 mA*
$V_{BE(off)}$ = 1.5V; V_{CE} = 400V	I_{CEX}	*max.*	*10 μA*
$V_{BE(off)}$ = 1.5V; V_{CE} = 400V; T_A = 125°C	I_{CEX}	*max.*	*1.0 mA*
Emitter cut-off current			
I_C = 0; V_{EB} = 5V	I_{EBO}	*max.*	*10 μA*
Breakdown voltages			
I_C = 3 A; I_{B1} = 0.6A; L = 1mH	$V_{CEO(sus)}$*	*min.*	*400 V*
I_C = 1 mA; I_E = 0	V_{CBO}	*min.*	*500 V*
I_E = 1 mA; I_C = 0	V_{EBO}	*min.*	*7.0 V*
Saturation voltages			
I_C = 3 A; I_B = 0.6 A	V_{CEsat}*	*max.*	*1.0 V*
	V_{BEsat}*	*max.*	*1.2 V*
D.C. current gain			
I_C = 0.1A; V_{CE} = 5V	h_{FE}*	*min.*	*20*
		max.	*80*
*I_C = 1A; V_{CE} = 5V***	h_{FE}*	*min.*	*20*
		max.	*80*
I_C = 3A; V_{CE} = 5V	h_{FE}*	*min.*	*10*

Switching time

I_C = 3A; R_L = 50Ω
I_{B1} = –I_{B2} = 0.6A; V_{CC} = 150V

Turn on time	t_{on}	*max.*	*1.0 μs*
Storage time	t_s	*max.*	*2.5 μs*
Fall time	t_f	*max.*	*1.0 μs*

** Pulse test: P_W ≤ 350 μs; duty cycle ≤ 2% pulsed.*
(1) P_W ≤ 300 μs; duty cycle ≤ 10%.

***** h_{FE} classification: R: 20-40 O: 30-60 Y: 40-80***

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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