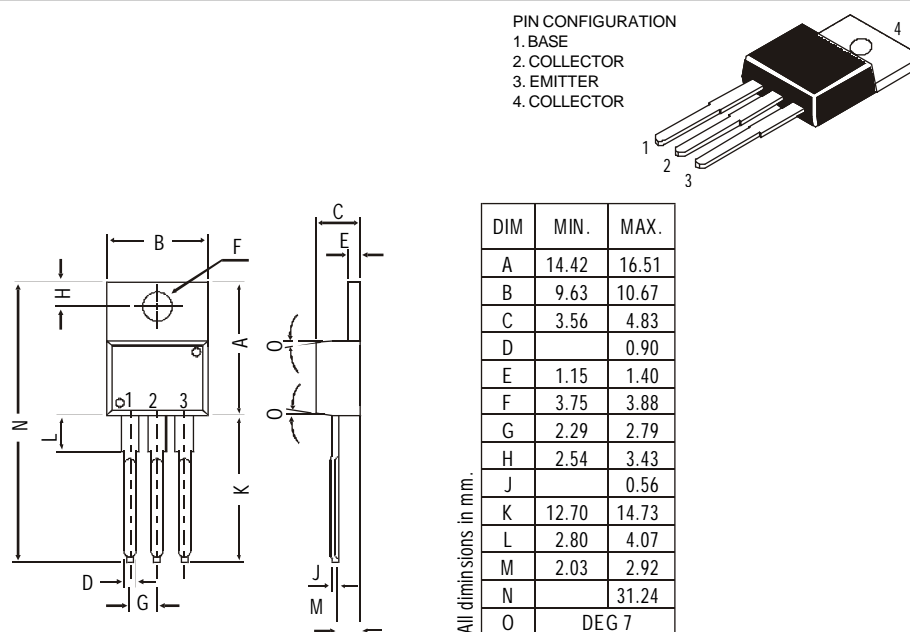


TO-220 Plastic Package

**BD241, BD241A, BD241B, BD241C
BD242, BD242A, BD242B, BD242C**

*BD241, 241A, 241B, 241C NPN PLASTIC POWER TRANSISTORS
BD242, 242A, 242B, 242C PNP PLASTIC POWER TRANSISTORS
General Purpose Amplifier and Switching Applications*



ABSOLUTE MAXIMUM RATINGS

		241	241A	241B	241C	
		242	242A	242B	242C	
Collector-emitter voltage ($V_{BE} = 0$)	V_{CES}	max. 55	70	90	115	V
Collector-emitter voltage (open base)	V_{CEO}	max. 45	60	80	100	V
Collector current	I_C	max.		5.0		A
Total power dissipation up to $T_C = 25^\circ\text{C}$	P_{tot}	max.		40		W
Junction temperature	T_j	max.		150		$^\circ\text{C}$
Collector-emitter saturation voltage $I_C = 3\text{ A}; I_B = 0.6\text{ A}$	V_{CESat}	max.		1.2		V
D.C. current gain $I_C = 1\text{ A}; V_{CE} = 4\text{ V}$	h_{FE}	min.		25		

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

Limiting values

		241	241A	241B	241C	
		242	242A	242B	242C	
Collector-emitter voltage ($V_{BE} = 0$)	V_{CES}	max. 55	70	90	115	V
Collector-emitter voltage (open base)	V_{CEO}	max. 45	60	80	100	V
Collector-emitter voltage ($R_{BE} = 100\Omega$)	V_{CER}	max. 55	70	90	115	V

BD241, BD241A, BD241B, BD241C
BD242, BD242A, BD242B, BD242C

Emitter-base voltage (open collector)	V_{EBO}	max.	5.0	V
Collector current	I_C	max.	3.0	A
Collector current (Peak value)	I_C	max.	5.0	A
Base current	I_B	max.	1.0	A
Total power dissipation upto $T_C=25^\circ\text{C}$	P_{tot}	max.	40	W
Derate above 25°C		max.	0.32	W/°C
Junction temperature	T_j	max.	150	°C
Storage temperature	T_{stg}		-65 to +150	°C

THERMAL RESISTANCE

From junction to case	$R_{th\ j-c}$		3.125	°CW
From junction to ambient	$R_{th\ j-a}$		62.5	°CW

CHARACTERISTICS

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

			241	241A	241B	241C	
			242	242A	242B	242C	
Collector cutoff current							
$I_B = 0; V_{CE} = 30\text{ V}$	I_{CEO}	max.	0.3	0.3	-	-	mA
$I_B = 0; V_{CE} = 60\text{ V}$	I_{CEO}	max.	-	-	0.3	0.3	mA
$V_{BE} = 0; V_{CE} = V_{CEO}$	I_{CES}	max.		0.2			mA
Emitter cut-off current							
$I_C = 0; V_{EB} = 5\text{ V}$	I_{EBO}	max.		1.0			mA
Breakdown voltages							
$I_C = 30\text{ mA}; I_B = 0$	$V_{CEO(sus)}^*$	min.	45	60	80	100	V
$I_C = 1\text{ mA}; V_{BE} = 0$	V_{CES}	min.	55	70	90	115	V
$I_E = 1\text{ mA}; I_C = 0$	V_{EBO}	min.		5.0			V
Saturation voltage							
$I_C = 3\text{ A}; I_B = 0.6\text{ A}$	V_{CESat}^*	max.		1.2			V
Base emitter on voltage							
$I_C = 3\text{ A}; V_{CE} = 4\text{ V}$	$V_{BE(on)}^*$	max.		1.8			V
D.C. current gain							
$I_C = 1\text{ A}; V_{CE} = 4\text{ V}$	h_{FE}^*	min.		25			
$I_C = 3\text{ A}; V_{CE} = 4\text{ V}$	h_{FE}^*	min.		10			
Transition frequency							
$I_C = 0.5\text{ A}; V_{CE} = 10\text{ V}; f = 1\text{ MHz}$	$f_T (1)$	min.		3			MHz
Small signal current gain							
$I_C = 0.5\text{ A}; V_{CE} = 10\text{ V}; f = 1\text{ KHz}$	h_{fe}	min.		20			

* Pulse test: pulse width $\leq 300\text{ }\mu\text{s}$; duty cycle $\leq 2\%$

(1) $f_T = |h_{fe}| \cdot f_{test}$

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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