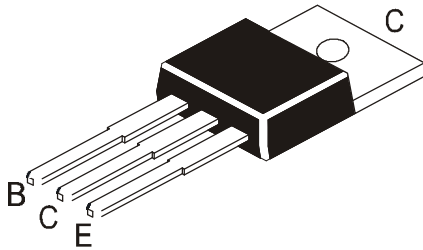


## NPN PLASTIC POWER TRANSISTOR

CDL13007D



TO-220  
Plastic Package

Built in Diode

### ABSOLUTE MAXIMUM RATINGS

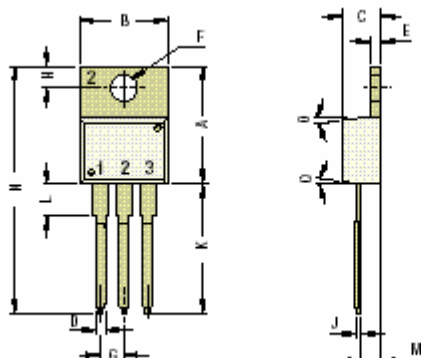
DESCRIPTION	SYMBOL	VALUE	UNIT
Collector Base Voltage	$V_{CBO}$	700	V
Collector Emitter Voltage	$V_{CEO}$	400	V
Emitter Base Voltage	$V_{EBO}$	9	V
Collector Current Continuous	$I_C$	7	A
Collector Power Dissipation $T_c=25^\circ\text{C}$	$P_C$	80	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 55 to +150	$^\circ\text{C}$

### ELECTRICAL CHARACTERISTICS ( $T_c=25^\circ\text{C}$ unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Cut Off Current	$I_{CBO}$	$V_{CB}=700\text{V}, I_E=0$			100	$\mu\text{A}$
Emitter Cut Off Current	$I_{EBO}$	$V_{EB}=9\text{V}, I_C=0$			100	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$I_C=2\text{A}, V_{CE}=5\text{V}$	15		35	
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=5\text{A}, I_B=1\text{A}$			1.0	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=5\text{A}, I_B=1\text{A}$			1.5	V
Transition Frequency	$f_T$	$V_{CE}=10\text{V}, I_C=0.5\text{A}$	5.0			MHz
Storage Time	$t_s$	$I_C=0.5\text{A}$	3.0		6.0	$\mu\text{s}$
Diode forward Voltage	$V_{FEC}$	$I_F=2\text{A}$			2.0	V

CDL13007DRev 200410E

**TO-220**  
Leaded Plastic  
Package

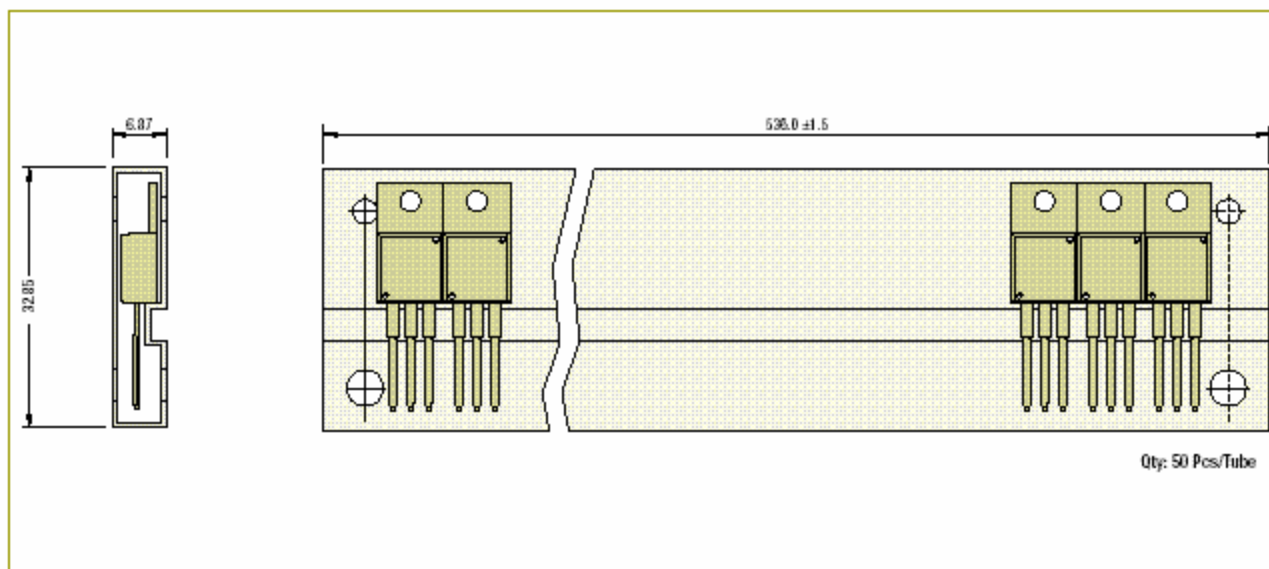


DIM	Min	Max	DIM	Min	Max
A	14.42	16.51	H	2.54	3.43
B	9.63	10.67	J	0.36	0.61
C	3.56	4.83	K	12.00	14.73
D	—	0.90	L	2.80	6.35
E	1.15	1.50	M	2.00	2.92
F	3.53	4.10	N	—	31.24
G	2.29	2.79	O	—	7°

Pin Configurations

Pin 1: Base Pin 2: Collector Pin 3: Emitter

**TO-220 Series Packaging Tube**



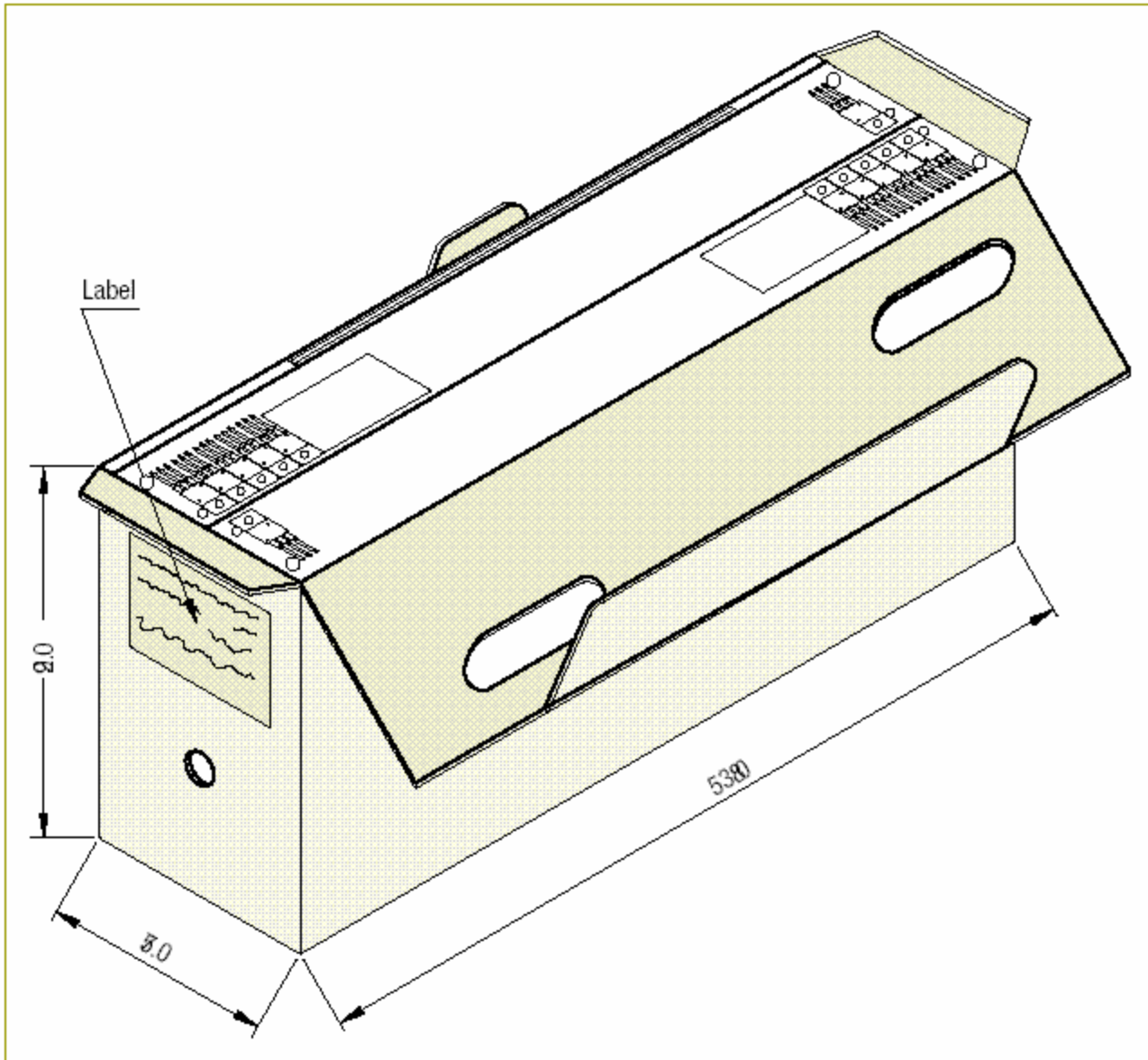
Packaging dimensions, tube dimensions and quantity/tube are approximate and subject to change.

**... Packaging Specifications**

T & A: Tape and Ammo Pack; T & R: Tape and Reel; Bulk: Loose in Poly Bags; Tube: Tube and Carton; K: 1,000

Package / Case Type	Packaging Type	Std. Packing Qty	Inner Carton			Outer Carton		
			Qty	Size L x W x H (cm)	Gross Weight (Kg)	Qty	Size L x W x H (cm)	Gross Weight (Kg)
TO-220	Bulk	1,000	1K	19 x 19 x 8	2.0	10K	46 x 38 x 22	21.6
	Tube	1,000 (50 pcs/tube)	1K	55 x 8 x 10	2.8	10K	55 x 35 x 27	28.3

... continued from previous page

**Packaging for Tubes**

Packaging dimensions/carton dimensions are approximate. Illustration shows packaging box for TO-220 Series.  
For dimensions of other tube packaging, please refer to Packaging Specifications page.

**Component Disposal Instructions**

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

**Disclaimer**

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