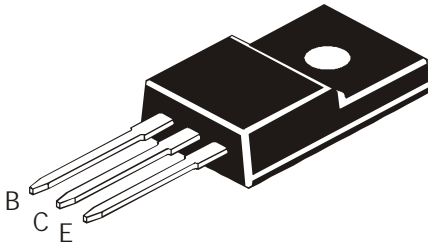


**NPN EPITAXIAL PLANAR SILICON DARLINGTON TRANSISTOR**

**CFD1933**

**TO-220FP Fully Isolated Plastic Package**



www.DataSheet4U.com

**Low Freq. Power Amp.  
Built in Damper Diode  
Complementary CSB1342**

**ABSOLUTE MAXIMUM RATINGS(Ta=25deg C)**

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector -Base Voltage	VCBO	80	V
Collector -Emitter Voltage	VCEO	80	V
Emitter Base Voltage	VEBO	7.0	V
Collector Current DC	IC	4.0	A
Collector Current (Pulse*)		6.0	A
Collector Power Dissipation @ Ta=25 deg C	PC	2.0	W
Collector Power Dissipation @ Tc=25 deg C		30	W
Junction Temperature	Tj	150	deg C
Storage Temperature Range	Tstg	-55 to +150	deg C

\*Single Pulse Pw=100ms

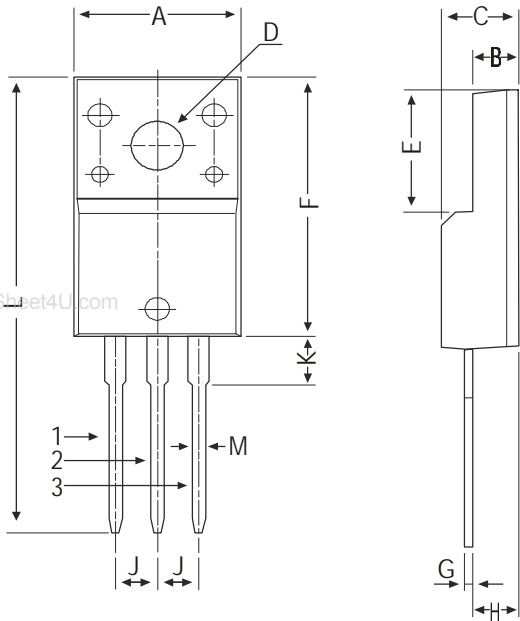
**ELECTRICAL CHARACTERISTICS (Ta=25 deg C Unless Specified)**

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Emitter Voltage	VCEO	IC=1mA, IB=0	80	-	-	V
Collector Base Voltage	VCBO	IC=50uA, IE=0	80	-	-	V
Collector Cut off Current	ICBO	VCB=80V, IE=0	-	-	100	uA
Emitter Cut off Current	IEBO	VEB=5V, IC=0	-	-	3.0	mA
Collector Emitter Saturation Voltage	VCE(Sat)**	IC=2A, IB=4mA	-	-	1.5	V
DC Current Gain	hFE**	IC=2A, VCE=3V	1.0	-	10	K
<b>Dynamic Characteristics</b>						
Transition Frequency	ft	VCE=5V, IC=0.2A, f=10MHz	-	40	-	MHz
Collector Output Capacitance	Cob	VCB=10V, IE=0 f=1MHz	-	35	-	pF

\*\*Pulse test

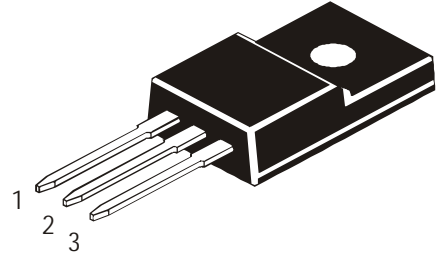
**TO-220FP Fully Isolated Plastic Package**

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DIM	MIN	MAX
A	9.80	10.36
B	2.50	3.00
C	4.30	4.90
D	3.10	3.40
E	6.50	8.20
F	14.80	17.27
G	0.40	0.70
H	2.50	2.96
J	2.34	2.74
K	—	4.70
L	—	30.05
M	0.6	0.90

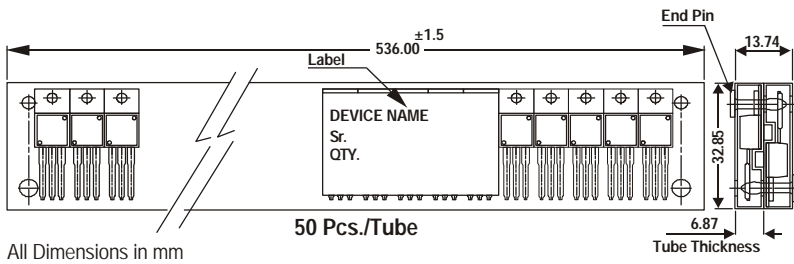
All dimensions in mm.



**Pin Configuration**

- 1. Base
- 2. Collector
- 3. Emitter

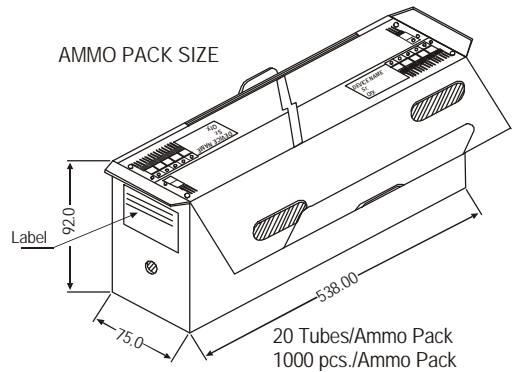
**TO-220 FP Tube Packing**



All Dimensions in mm

50 Pcs./Tube

**AMMO PACK SIZE**



20 Tubes/Ammo Pack  
1000 pcs./Ammo Pack

**Packing Detail**

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-220FP	200 pcs/polybag	396 gm/200 pcs	3" x 7.5" x 7.5"	1K	17" x 15" x 13.5"	16K	36 kgs
	50 pcs/tube	135 gm/50 pcs	3.5" x 3.7" x 21.5"	1K	19" x 19" x 19"	10K	28 kgs

**TO-220FP Fully Isolated  
Plastic Package****Component Disposal Instructions**[www.DataSheet4U.com](http://www.DataSheet4U.com)

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**

The product information and the selection guides facilitate selection of the CDIL's 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 in the Data Sheet and 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 Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems 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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**Continental Device India Limited**

C-120 Naraina Industrial Area, New Delhi 110 028, India.

Telephone + 91-11-2579 6150, 4141 1112 Fax + 91-11-2579 5290, 4141 1119  
email@cdil.com www.cdilsemi.com