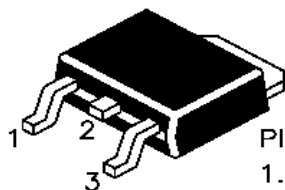


COMPLEMENTARY DARLINGTON PLASTIC POWER TRANSISTORS

CJD110 NPN
CJD115 PNP

DPAK (TO-252)
Plastic Package



PIN CONFIGURATION

1. BASE
2. COLLECTOR
3. EMITTER

Designed for General Purpose Power and Switching such as Output or Driver stages in Applications such as Switching Regulators, Converters and Power Amplifiers

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector Base Voltage	V_{CBO}	60	V
Collector Emitter Voltage	V_{CEO}	60	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current Continuous	I_C	2	A
Peak		4	A
Base Current	I_B	50	mA
Total Power Dissipation $T_c=25^\circ\text{C}$	P_D	20	W
Derate Above 25°C		0.16	W/ $^\circ\text{C}$
Total Power Dissipation $T_a=25^\circ\text{C}$	P_D	1.75	W
Derate Above 25°C		0.014	W/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 65 to +150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Junction to Case	$R_{th(j-c)}$	6.25	$^\circ\text{C/W}$
Junction to Ambient in free air	$*R_{th(j-a)}$	71.4	$^\circ\text{C/W}$

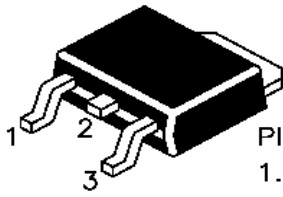
ELECTRICAL CHARACTERISTICS ($T_c=25^\circ\text{C}$ unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Emitter Sustaining Voltage	$**V_{CEO(sus)}$	$I_C=30\text{mA}, I_B=0$	100			V
Collector Cut Off Current	I_{CEO}	$V_{CE}=30\text{V}, I_B=0$			20	μA
Collector Cut Off Current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$ $V_{CB}=40\text{V}, I_E=0$			20 10	μA
Emitter Cut Off Current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			2.0	mA
Collector Cut Off Current	I_{CEX}	$V_{CE}=40\text{V}, V_{BE(off)}=1.5\text{V}$ $V_{CE}=40\text{V}, V_{BE(off)}=1.5\text{V}, T_c=125^\circ\text{C}$			10 500	μA
DC Current Gain	h_{FE}	$I_C=0.5\text{A}, V_{CE}=3\text{V}$ $I_C=2\text{A}, V_{CE}=3\text{V}$ $I_C=4\text{A}, V_{CE}=3\text{V}$	500 1000 200		12000	

*These rating are applicable when surface mounted on the minimum pad sizes recommended

**Pulse Test:- Pulse Width < 300 μs , Duty Cycle < 2%

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

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=2\text{A}, I_B=8\text{mA}$			2.0	V
		$I_C=4\text{A}, I_B=40\text{mA}$			3.0	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=4\text{A}, I_B=40\text{mA}$			4.0	V
Base Emitter On Voltage	$V_{BE(on)}$	$I_C=2\text{A}, V_{CE}=3\text{V}$			2.8	V

DYNAMIC CHARACTERISTICS

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Current Gain Bandwidth Product	f_T	$I_C=0.75\text{A}, V_{CE}=10\text{V}, f=1\text{MHz}$	25			MHz
Output Capacitance	C_{ob}	$I_E=0, V_{CB}=10\text{V}, f=0.1\text{MHz}$			100	pF
		CJD110 CJD115			200	pF

MARKING	CDIL	CDIL
	CJD110	CJD115
	XY MX	XY MX
XY= Date Code		

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DIM	MIN.	MAX.
A	2.18	2.43
B	0.889	1.50
b	0.550	0.889
b1	0.75	0.85
b2	0.46	0.56
C	0.46	0.56
D	6.35	6.75
D1	4.95	5.46
E	5.40	6.22
e1	2.25	2.35
e2	4.50	4.70
L1	9.25	9.75
L2	0.5	—
L3	0.90	1.10

MINIMUM PAD SIZES
RECOMMENDED FOR
SURFACE MOUNTED
APPLICATIONS

0.100
2.54

0.085
2.16

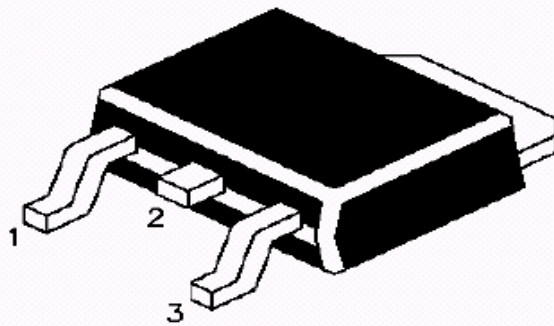
0.050
1.27

0.100
2.54

0.085
2.16

0.050
1.27

1 inch
25.4 mm



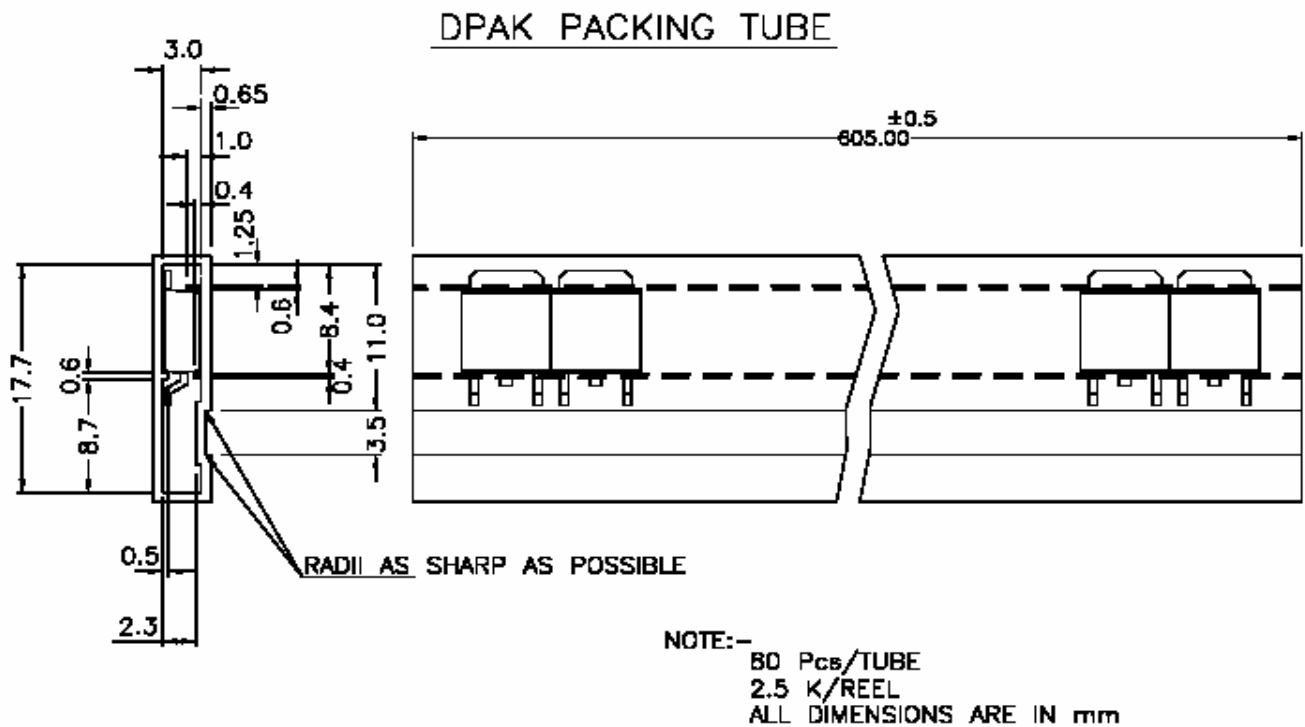
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Component Disposal Instructions

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

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 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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