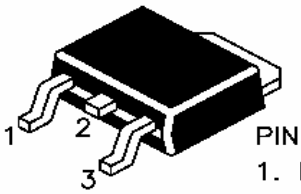
COMPLEMENTARY DARLINGTON PLASTIC POWER TRANSISTORS

MJD112 NPN
MJD117 PNP

DPAK (TO-252)
Plastic Package



PIN CONFIGURATION
1. BASE
2. COLLECTOR
3. EMITTER

Designed for General Purpose Power and Switching Applications

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector Base Voltage	V_{CBO}	100	V
Collector Emitter Voltage	V_{CEO}	100	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=25ºC	P_D	20	W
Derate Above 25ºC		0.16	W/ºC
Total Power Dissipation T_a=25ºC	P_D	1.75	W
Derate Above 25ºC		0.014	W/ºC
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 65 to +150	ºC

THERMAL CHARACTERISTICS

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

ELECTRICAL CHARACTERISTICS (T_c=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Emitter Sustaining Voltage	**$V_{CEO(sus)}$	I_C=30mA, I_B=0	100			V
Collector Cut Off Current	I_{CEO}	V_{CE}=50V, I_B=0			20	µA
Collector Cut Off Current	I_{CBO}	V_{CB}=100V, I_E=0			20	µA
		V_{CB}=80V, I_E=0			10	µA
Emitter Cut Off Current	I_{EBO}	V_{EB}=5V, I_C=0			2.0	mA
Collector Cut Off Current	I_{CEX}	V_{CE}=80V, $V_{BE\ (off)}$=1.5V			10	µA
		V_{CE}=80V, $V_{BE\ (off)}$=1.5V, T_c=125ºC			500	µA
DC Current Gain	h_{FE}	I_C=0.5A, V_{CE}=3V	500			
		I_C=2A, V_{CE}=3V	1000		12000	
		I_C=4A, V_{CE}=3V	200			

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

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

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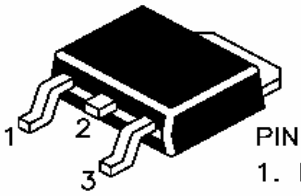

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ELECTRICAL CHARACTERISTICS (T_c=25ºC unless specified otherwise)

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

DYNAMIC CHARACTERISTICS

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Current Gain Bandwidth Product	f_T	I_C=0.75A, V_{CE}=10V, f=1MHz	25			MHz
Output Capacitance	C_{ob}	I_E=0, V_{CB}=10V, f=0.1MHz				
		MJD112			100	pF
		MJD117			200	pF

MARKING	**CDIL**	**CDIL**
	MJD112	**MJD117**
	XY MX	**XY MX**
XY= Date Code		

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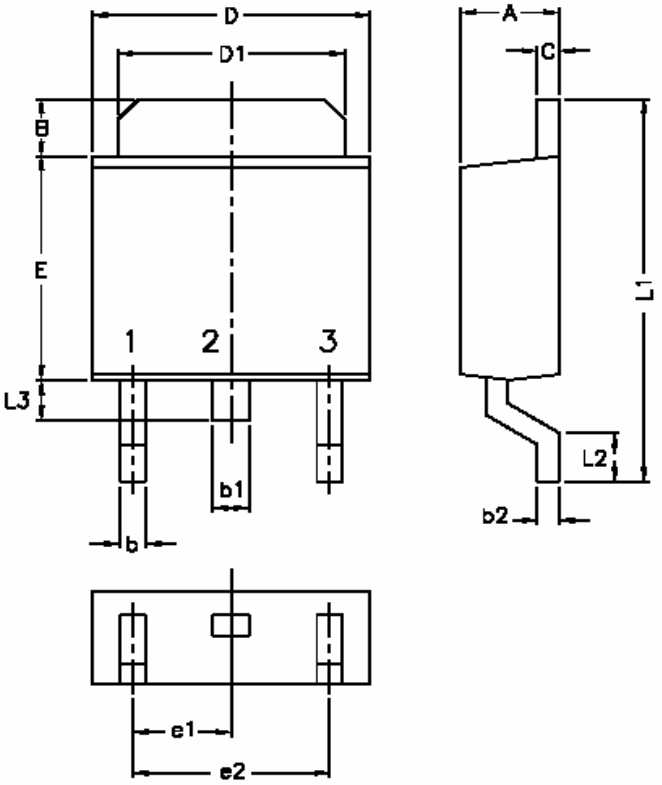
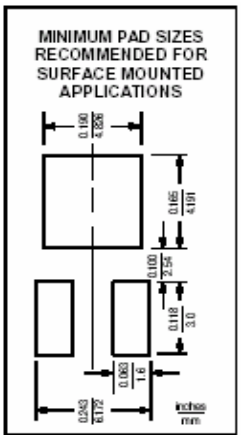
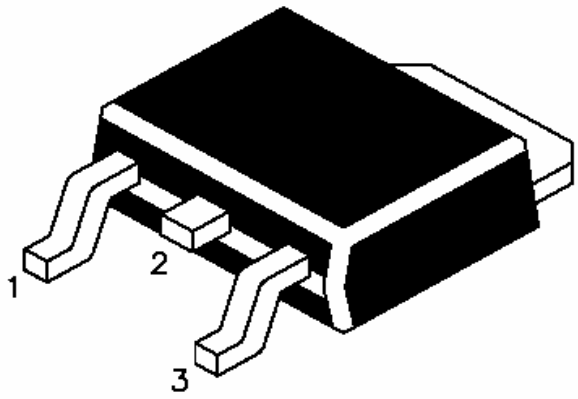
PACKAGE DPAK



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



ALL DIMENSIONS ARE IN mm



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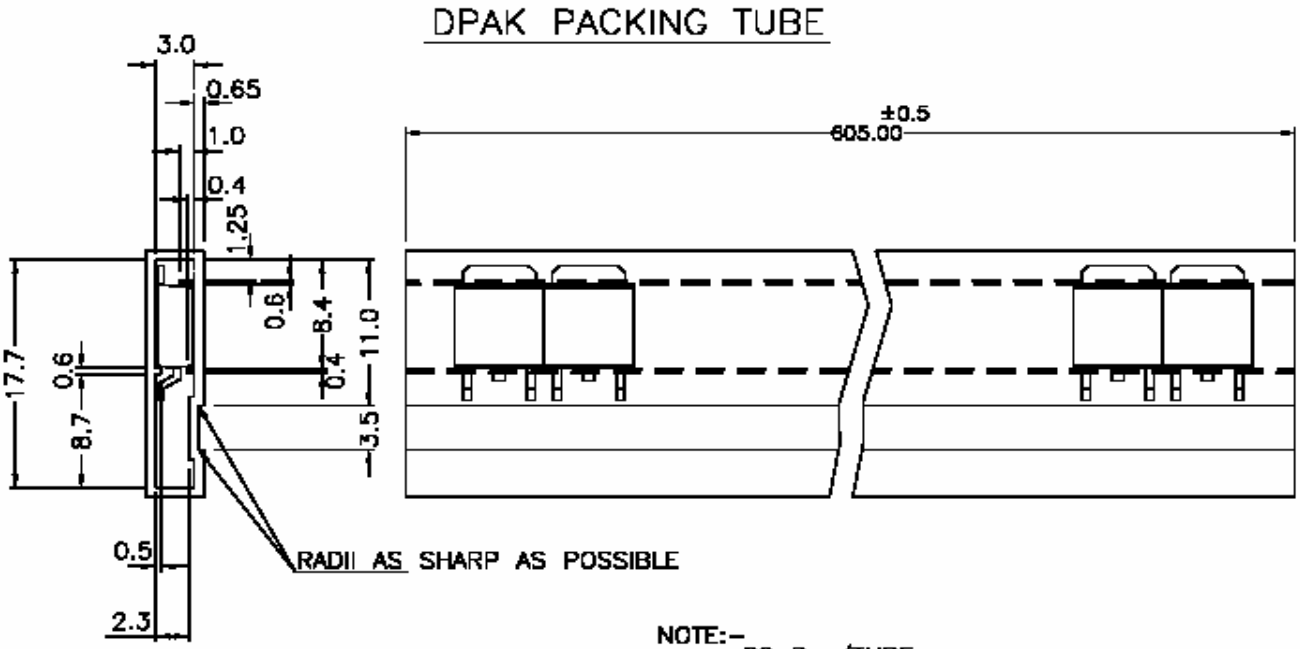

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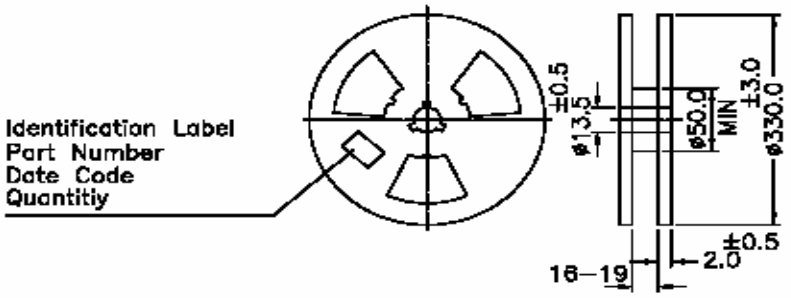
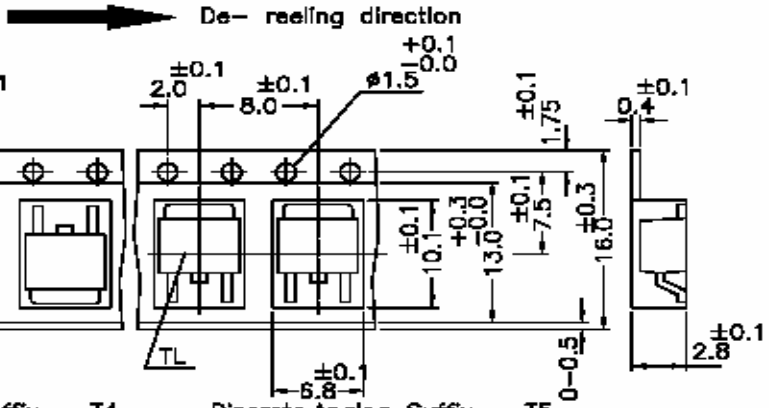
DPAK TAPE & REEL SPECIFICATION



ALL DIMENSIONS ARE IN mm
REEL ø 330 mm (13")
No of Device 2500

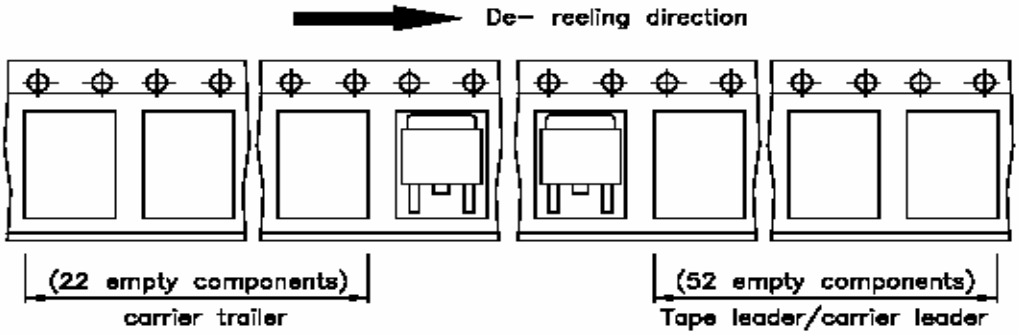
TAPE & REEL



Discrete Suffix – T4
Analog Suffix – RK

Discrete,Analog Suffix – T5

Notes:–
A maximum of three consecutive components may be missing. Provided this gap is followed by six consecutive components.



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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

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