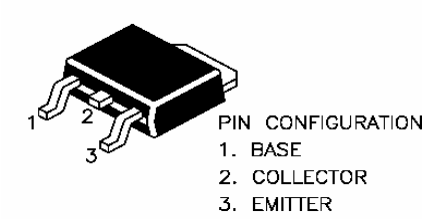
NPN DARLINGTON PLASTIC POWER TRANSISTOR

MJD44E3

DPAK (TO-252)
Plastic Package



PIN CONFIGURATION
1. BASE
2. COLLECTOR
3. EMITTER

For General Purpose Power and Switching Output or Driver Stages in Applications such as Switching Regulators, Converters and Power Amplifiers

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector Emitter Voltage	V_{CEO}	80	V
Emitter Base Voltage	V_{EBO}	7.0	V
Collector Current Continuous	I_C	10	A
Total Power Dissipation at T_c=25ºC	P_D	20	W
Derate Above 25ºC		0.16	W/ºC
Total Power Dissipation at 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}	- 55 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
Lead Temperature for Soldering	T_L	260	ºC

***These ratings are applicable when surface mounted on the minimum pad sizes recommended. (see page 3)**

ELECTRICAL CHARACTERISTICS (T_c=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Cut Off Current	I_{CES}	V_{CE}=Rated V_{CEO}, V_{BE}=0			10	µA
Emitter Cut Off Current	I_{EBO}	V_{EB}=7V, I_C=0			8.0	mA
Collector Emitter Saturation Voltage	$V_{CE\ (sat)}$	I_C=5A, I_B=10mA			1.5	V
		I_C=10A, I_B=20mA			2.0	V
Base Emitter Saturation Voltage	$V_{BE\ (sat)}$	I_C=5A, I_B=10mA			2.5	V
DC Current Gain	h_{FE}	I_C=5A, V_{CE}=5V	1000			

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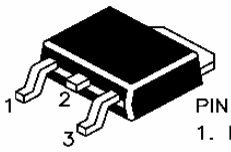

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ELECTRICAL CHARACTERISTICS (T_c=25ºC unless specified otherwise)

DYNAMIC CHARACTERISTICS

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Capacitance	C_{cb}	I_E=0, V_{CB}=10V, f=1MHz			130	pF

SWITCHING TIMES

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Delay and Rise Time	$t_d + t_r$	I_C=10A, I_{B1}=20mA		0.6		µs
Storage Time	t_s	I_C=10A, I_{B1}=I_{B2}=20mA		2.0		µs
Fall Time	t_f	I_C=10A, I_{B1}=I_{B2}=20mA		0.5		µs

MARKING	CDIL MJD44E3 XY MX	
XY= Date Code		

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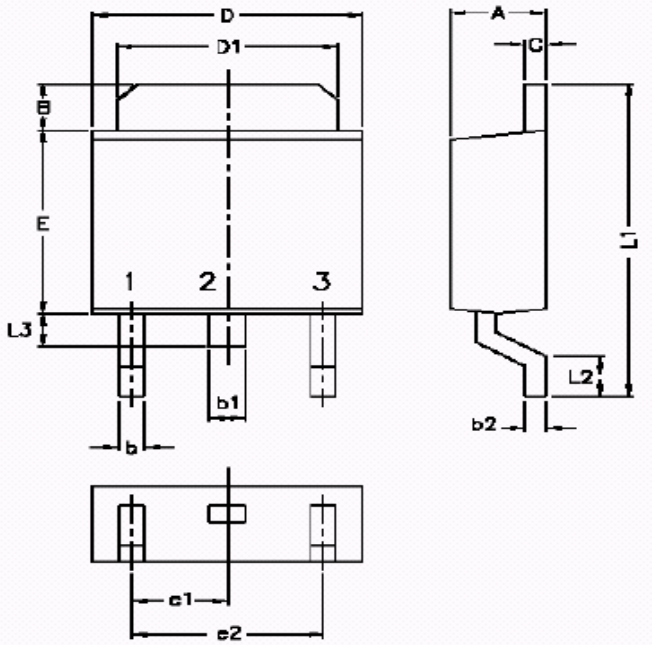
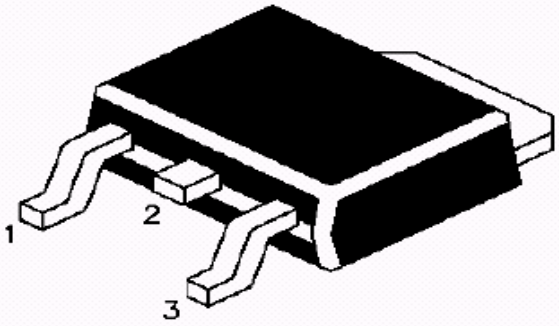
PACKAGE DPAK



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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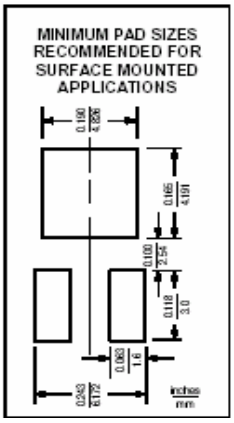
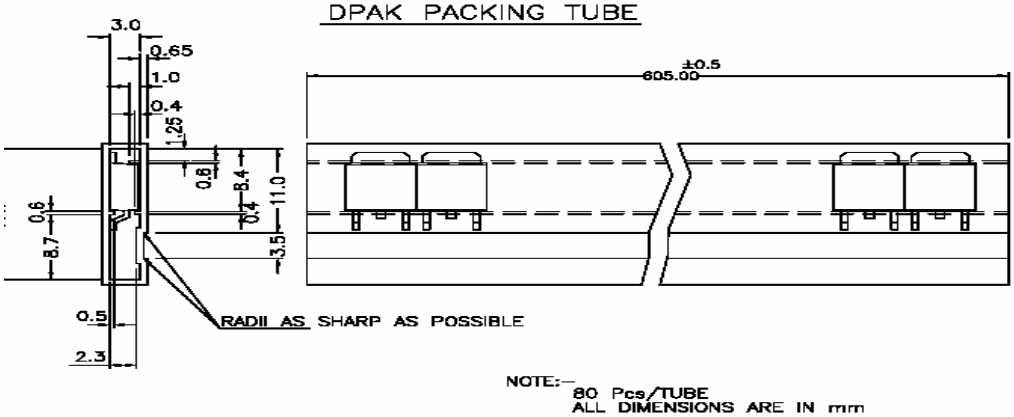


DPAK PACKING TUBE



NOTE:–
80 Pcs/TUBE
ALL DIMENSIONS ARE IN mm

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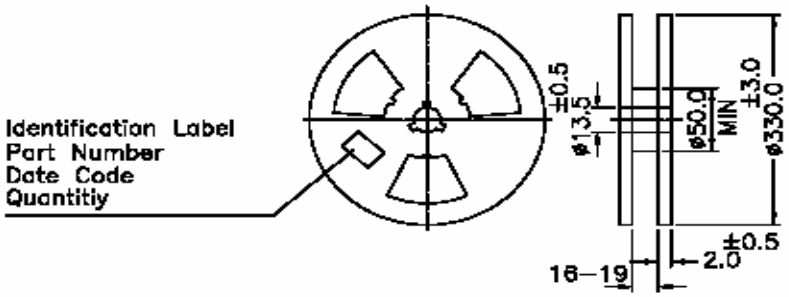
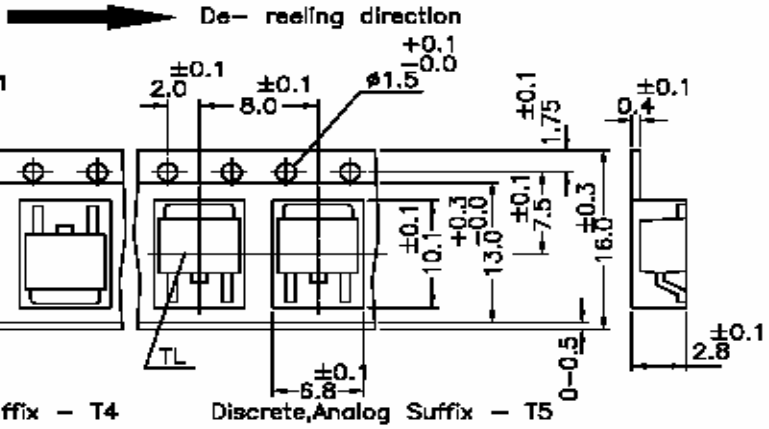
DPAK TAPE & REEL SPECIFICATION



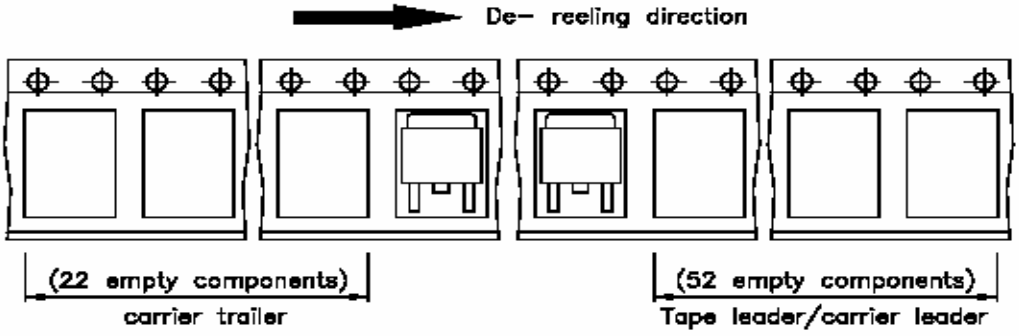
ALL DIMENSIONS ARE IN mm
REEL ø 330 mm (13")
No of Device 2500

TAPE & REEL



Discrete Suffix – T4 Discrete,Analog Suffix – T5
Analog Suffix – RK

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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