

COMPLEMENTARY PLASTIC POWER TRANSISTORS

MJD31, C NPN
MJD32, C PNP

DPAK (TO-252)
Plastic Package



PIN CONFIGURATION
1. BASE
2. COLLECTOR
3. EMITTER

Designed for General Purpose Amplifier and Low Speed Switching Applications

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	MJD31/MJD32	MJD31C/MJD32C	UNIT
Collector Emitter Voltage	V_{CEO}	40	100	V
Collector Base Voltage	V_{CBO}	40	100	V
Emitter Base Voltage	V_{EBO}	5.0		V
Collector Current Continuous	I_C	3.0		A
Collector Current Peak	I_{CP}	5.0		A
Base Current	I_B	1.0		A
Total Power Dissipation at $T_c=25^\circ\text{C}$	P_D	15		W
Derate Above 25°C		0.12		W/ $^\circ\text{C}$
Total Power Dissipation at $T_a=25^\circ\text{C}$	$*P_D$	1.56		W
Derate Above 25°C		0.012		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	$R_{th(j-c)}$	8.3	$^\circ\text{C/W}$
Junction to Ambient in free air	$*R_{th(j-a)}$	80	$^\circ\text{C/W}$
Lead Temperature for Soldering Purposes	T_L	260	$^\circ\text{C}$

*These ratings are applicable when surface mounted on the minimum pad sizes recommended. (see page no 3)

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

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Emitter Voltage	V_{CEO}	$I_C=1\text{mA}, I_B=0$ MJD31/MJD32 MJD31C/MJD32C	40 100			V V
Collector Cut Off Current	I_{CEO}	$V_{CE}=40\text{V}, I_B=0$ MJD31/MJD32 $V_{CE}=60\text{V}, I_B=0$ MJD31C/MJD32C			50 50	μA μA
Collector Cut Off Current	I_{CES}	$V_{CE}=\text{Rated } V_{CEO}, V_{EB}=0$			20	μA
Emitter Cut Off Current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			1.0	mA
DC Current Gain	$**h_{FE}$	$I_C=1\text{A}, V_{CE}=4\text{V}$ $I_C=3\text{A}, V_{CE}=4\text{V}$	25 10		50	
Collector Emitter Saturation Voltage	$**V_{CE(sat)}$	$I_C=3\text{A}, I_B=375\text{mA}$			1.2	V
Base Emitter On Voltage	$**V_{BE(on)}$	$I_C=3\text{A}, V_{CE}=4\text{V}$			1.8	V

**Pulse Test:- Pulse Width $\leq 300\text{ms}$, Duty Cycle $\leq 2\%$

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ELECTRICAL CHARACTERISTICS (T_c=25°C unless specified otherwise)

DYNAMIC CHARACTERISTICS

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Current Gain Bandwidth Product	***f _T	I _C =500mA, V _{CE} =10V, f=1 MHz	3.0			MHz
Small Signal Current Gain	h _{fe}	I _C =500mA, V _{CE} =10V, f=1 kHz	20			

***f_T = Ihtel ftest.

MARKING	CDIL	CDIL	CDIL	CDIL
	MJD31	MJD31C	MJD32	MJD32C
	XY MX	XY MX	XY MX	XY MX
XY= Date Code				

MJD31/C_32/C Rev260505E

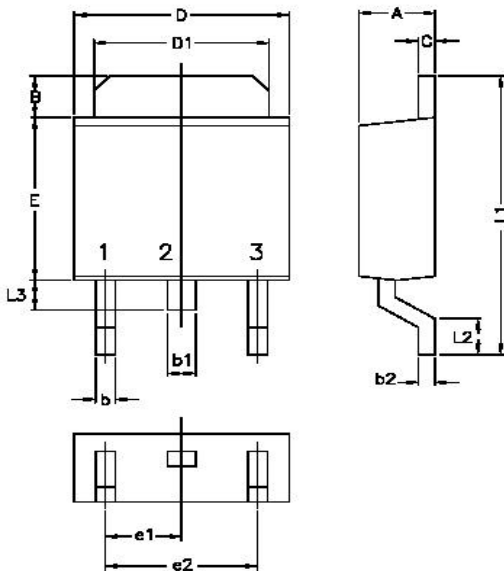
MJD31, C NPN

MJD32, C PNP

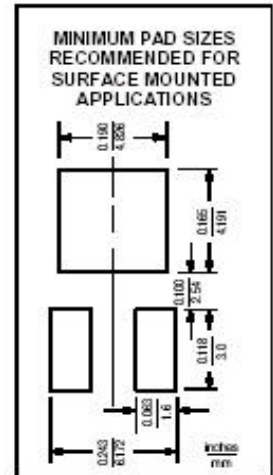
DPAK (TO-252)

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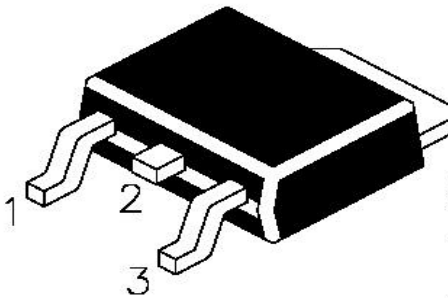
DPAK PACKAGE OUTLINE DIMENSIONS



DIM	MIN.	MAX.
A	2.20	2.40
B	1.30	1.50
b	0.55	0.65
b1	0.75	0.85
b2	0.46	0.56
C	0.46	0.56
D	6.40	6.60
D1	5.20	5.40
E	5.40	5.60
e1	2.25	2.35
e2	4.50	4.70
L1	9.25	9.75
L2	0.5	—
L3	0.90	1.10



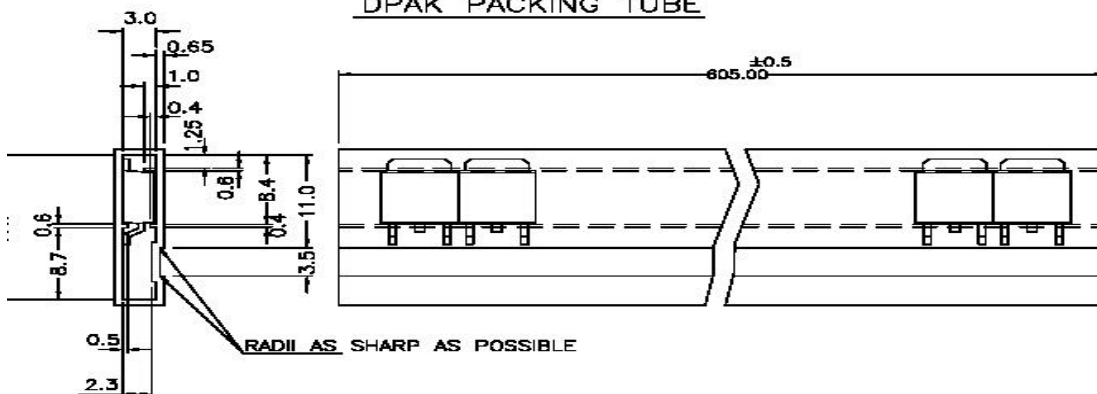
ALL DIMENSIONS ARE IN mm



PIN CONFIGURATION

1. BASE
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DPAK PACKING TUBE

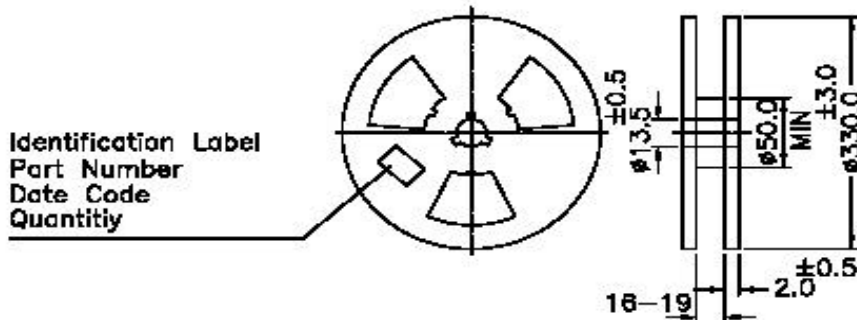


NOTE:—
80 Pcs/TUBE
ALL DIMENSIONS ARE IN mm

MJD32, C PNP

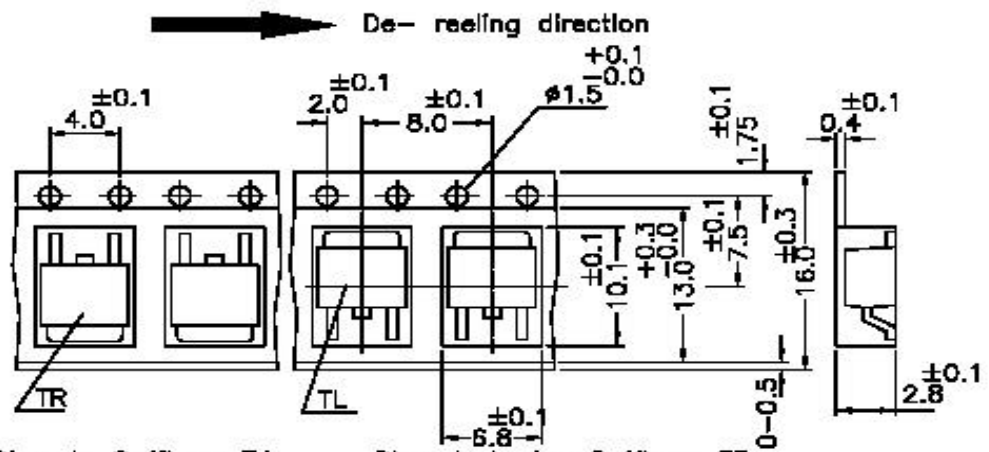
Plastic Package

DPAK TAPE & REEL SPECIFICATION



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

TAPE & REEL

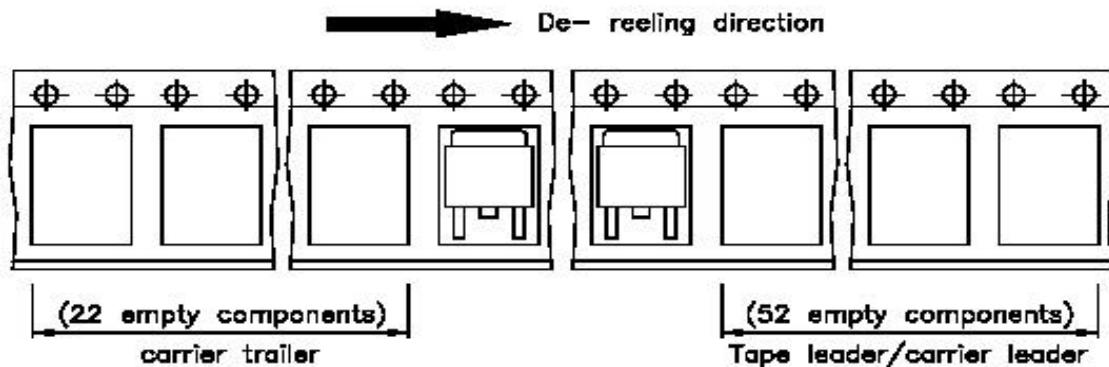


Discrete Suffix – T4

Analog Suffix – RK

Notes:—

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



Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete 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 Discrete 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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