MJD360T4-A
MJD361T4-A

Low voltage complementary power transistors

Preliminary data

Features

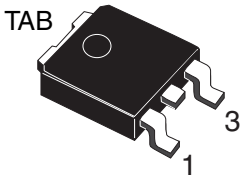
- Those devices are qualified for automotive application
- Low collector emitter saturation voltage
- Surface-mounting TO-252 power package in tape and reel

Applications

- General purpose switching and amplifier transistor

Description

The devices are manufactured in planar technology with “base Island” layout. The resulting transistor shows exceptional high gain performance coupled with very low saturation voltage.



DPAK

TO-252

Figure 1. Internal schematic diagrams

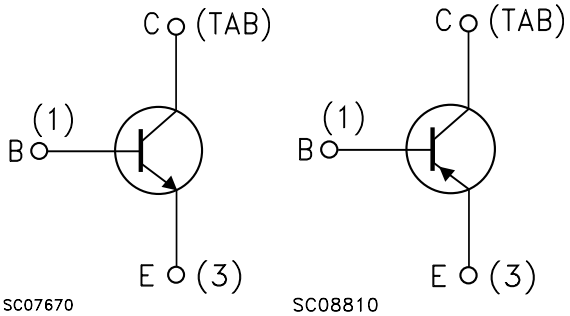


Table 1. Device summary

Order code	Marking	Polarity	Package	Packaging
MJD360T4-A	MJD360	NPN	DPAK	Tape and reel
MJD361T4-A	MJD361	PNP		

This is preliminary information on a new product now in development or undergoing evaluation. Details are subject to change without notice.

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1 Electrical ratings

Table 2. Absolute maximum ratings

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-base voltage (I_E = 0)	60	V
V_{CEO}	Collector-emitter voltage (I_B = 0)	60	V
V_{EBO}	Emitter-base voltage (I_C = 0)	5	V
I_C	Collector current	3	A
I_{CM}	Collector peak current	5	A
I_B	Base current	1	A
P_{TOT}	Total dissipation at T_c = 25 °C	15	W
T_{stg}	Storage temperature	-65 to 150	°C
T_J	Max. operating junction temperature	150	°C

Note: For PNP types voltage and current values are negative.

Table 3. Thermal data

Symbol	Parameter	Value	Unit
$R_{thj\text{-}case}$	Thermal resistance junction-case max.	8.3	°C/W

2 Electrical characteristics

(T_{case} = 25 °C unless otherwise specified)

Table 4. Electrical characteristics

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector cut-off current (I_E = 0)	V_{CE} = 60 V			20	µA
I_{EBO}	Emitter cut-off current (I_C = 0)	V_{EB} = 4 V			100	µA
$V_{(BR)CEO}$	Collector-emitter breakdown voltage (I_B = 0)	I_C = 10 mA	60			V
$V_{(BR)CBO}$	Collector-base breakdown voltage (I_E = 0)	I_C = 1 mA	60			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage (I_C = 0)	I_C = 100 µA	5			V
$V_{CE(sat)}$ (1)	Collector-emitter saturation voltage	I_C = 200 mA I_B = 10 mA I_C = 1 A I_B = 50 mA I_C = 3 A I_B = 150 mA			0.1 0.3 0.9	V V V
h_{FE} (1)	DC current gain	I_C = 200 mA V_{CE} = 1 V I_C = 1 A V_{CE} = 4 V I_C = 3 A V_{CE} = 4 V	90 60 30	130 100 60		

1. Pulse test: pulse duration ≤300 µs, duty cycle ≤2 %.

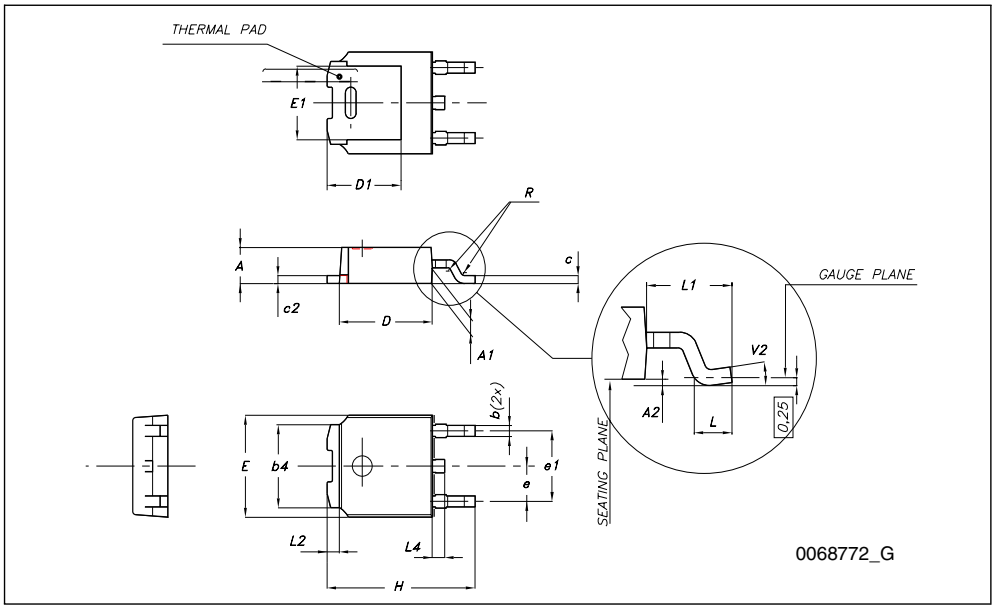
Note: For PNP types voltage and current values are negative.

3 Package mechanical data

In order to meet environmental requirements, ST offers these devices in different grades of ECOPACK® packages, depending on their level of environmental compliance. ECOPACK® specifications, grade definitions and product status are available at: www.st.com. ECOPACK is an ST trademark.

TO-252 (DPAK) mechanical data

DIM.	mm.		
	min.	typ	max.
A	2.20		2.40
A1	0.90		1.10
A2	0.03		0.23
b	0.64		0.90
b4	5.20		5.40
c	0.45		0.60
c2	0.48		0.60
D	6.00		6.20
D1		5.10	
E	6.40		6.60
E1		4.70	
e		2.28	
e1	4.40		4.60
H	9.35		10.10
L	1		
L1		2.80	
L2		0.80	
L4	0.60		1
R		0.20	
V2	0 °		8 °



4 Revision history

Table 5. Document revision history

Date	Revision	Changes
14-Aug-2009	1	Initial release.

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