

MJE340 MJE350

Complementary silicon power transistors

Features

- STMicroelectronics preferred salestypes
- Complementary NPN PNP devices

Applications

■ Linear and switching industrial equipment

Description

The MJE340 is a silicon planar NPN transistor intended for use in medium power linear and switching applications. It is mounted in SOT-32.

The complementary PNP type is MJE350.

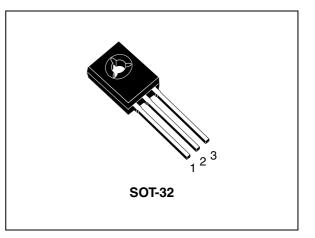


Figure 1. Internal schematic diagram

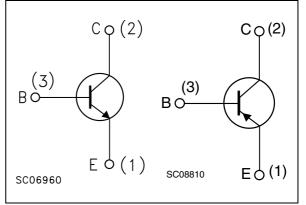


Table 1.Device summary

Order code	Marking	Polarity	Package	Packaging
MJE340	MJE340	NPN	SOT-32	Tube
MJE350	MJE350	PNP	SOT-32	Tube

1 Electrical ratings

Table 2.Absolute maximum ratings

		Value	
Symbol	Parameter	MJE340 (NPN)	Unit
		MJE350 (PNP)	
V _{CBO}	Collector-base voltage ($I_E = 0$)	300	V
V _{CEO}	Collector-emitter voltage (I _B = 0)	300	V
V _{EBO}	Base-emitter voltage ($I_{C} = 0$)	3	V
۱ _C	Collector current	0.5	А
P _{TOT}	Total dissipation at $T_c \le 25 \text{ °C}$	20.8	W
T _{stg}	Storage temperature	-65 to 150	О°
Τ _J	Max operating junction temperature	150	U

Note: for PNP type voltage and current values are negative.

Table 3. Thermal data

Symbol	Parameter	Value	Unit
R _{thJC}	Thermal resistance junction-case max	6.0	°C/W

2 Electrical characteristics

 $T_{case} = 25 \ ^{\circ}C$ unless otherwise specified.

Table 4.	Electrical	characteristics
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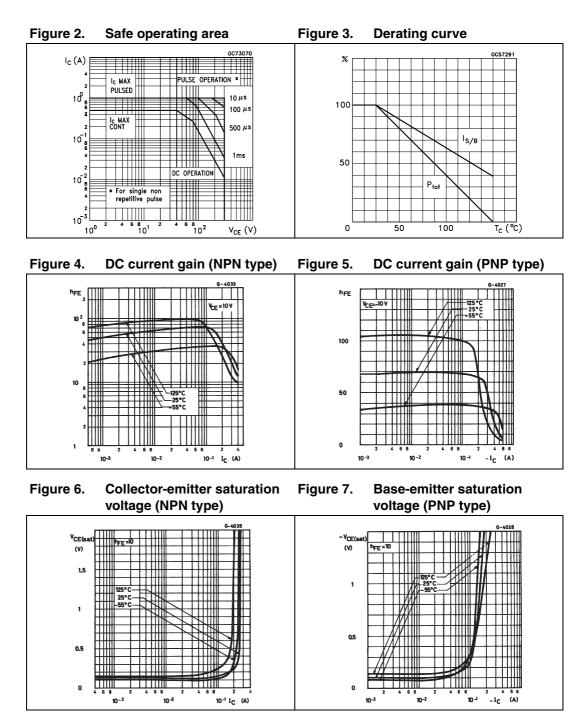
Symbol	Parameter	Test conditions	Min.	Тур.	Max.	Unit
I _{CBO}	Collector cut-off current $(I_E = 0)$	V _{CB} = 300 V			100	μA
I _{EBO}	Emitter cut-off current $(I_{\rm C} = 0)$	V _{EB} = 3 V			100	μA
V _{CEO(sus)} ⁽¹⁾	Collector-emitter sustaining voltage $(I_B = 0)$	I _C = 1 mA	300			V
V _{BE(on)}	Emitter-base on voltage (I _C = 0)	$I_{\rm C} = 50 \text{ mA}$ $V_{\rm CE} = 10 \text{ V}$			1	V
V _{CE(sat)} ⁽¹⁾	Collector-emitter saturation voltage	I _C = 100 mA I _B = 10 mA			0.5	V
h _{FE}	DC current gain	$I_{\rm C} = 50 \text{ mA}$ $V_{\rm CE} = 10 \text{ V}$	30		240	

1. Pulse test: pulse duration = 300 $\mu s,$ duty cycle \leq 2 %.

Note: for PNP type voltage and current values are negative.



2.1 Electrical characteristics (curves)





3 Package mechanical data

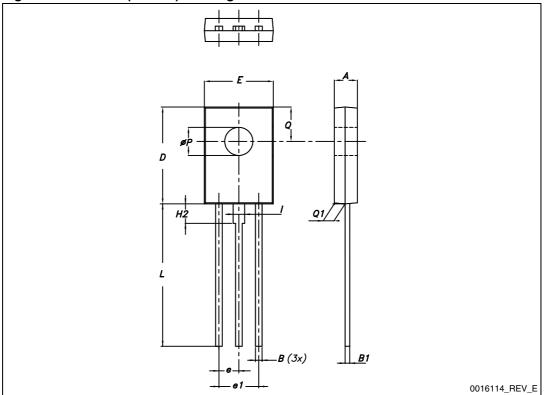
In order to meet environmental requirements, ST offers these devices in different grades of ECOPACK[®] packages, depending on their level of environmental compliance. ECOPACK[®] specifications, grade definitions and product status are available at: *www.st.com*. ECOPACK[®] is an ST trademark.



Dim		mm.			
Dim.	Min.	Тур.	Max.		
А	2.40		2.90		
В	0.64		0.88		
B1	0.39		0.63		
D	10.50		11.05		
E	7.40		7.80		
е	2.04	2.29	2.54		
e1	4.07	4.58	5.08		
L	15.30		16		
ØP	2.90		3.20		
Q		3.80			
Q1	1		1.52		
H2		2.15			
I		1.27			

 Table 5.
 SOT-32 (TO-126) mechanical data







4 Revision history

Table 6.Document revision history

Date	Revision	Changes	
05-Apr-2011	5	Minor text changes	
10-Nov-2011	6	Added: V_{CBO} in <i>Table 2</i> , $V_{CE(sat)}$ and $V_{BE(on)}$ in <i>Table 4</i>	



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