

D44H8 - D44H11 D45H8 - D45H11

Complementary power transistors

Features

- Low collector-emitter saturation voltage
- Fast switching speed

Applications

- Power amplifier
- Switching circuits

Description

The devices are manufactured in low voltage multi epitaxial planar technology. They are intended for general purpose linear and switching applications.

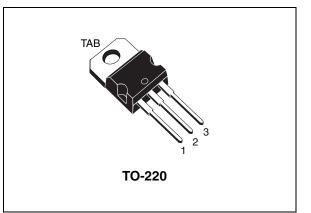
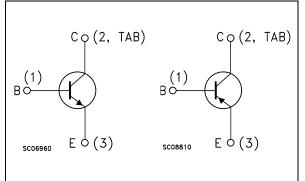


Figure 1. Internal schematic diagram



Order codes	Marking	Polarity	Package	Packaging
D44H8	D44H8	NPN	TO-220	Tube
D44H11	D44H11	NPN	TO-220	Tube
D45H8	D45H8	PNP	TO-220	Tube
D45H11	D45H11	PNP	TO-220	Tube

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1 Absolute maximum ratings

Table 2. Absolute	e maximum ratings
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Symbol	Parameter	Value	Unit
V	Collector-emitter voltage ($I_B = 0$) D44H8 - D45H8	60	V
V _{CEO}	Collector-emitter voltage (I _B = 0) D44H11 - D45H11	80	V
V _{EBO}	Emitter-base voltage (I _C = 0)	5	V
۱ _C	Collector current	10	А
I _{CM}	Collector peak current	20	А
P _{TOT}	Total dissipation at T _{case} = 25 °C	50	W
T _{STG}	Storage temperature	-55 to 150	°C
TJ	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 _{thJC}	Thermal resistance junction-case max	2.5	°C/W
R _{thJA}	Thermal resistance junction-ambient max	62.5	°C/W



2 Electrical characteristics

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

Table 4.	Electrical characteristics	

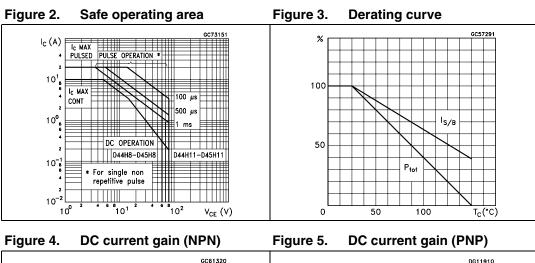
Symbol	Parameter	Test conditions	Min.	Тур.	Max.	Unit
V _{CEO(sus)} ⁽¹⁾	Collector-emitter sustaining voltage (I _B = 0)	I _C = 100 mA D44H8 - D45H8 D44H11 - D45H11	60 80	-		V
I _{CES}	Collector cut-off current (V _{BE} = 0)	V_{CE} = rated V_{CEO}		-	10	μA
I _{EBO}	Emitter cut-off current (I _C = 0)	V _{EB} = 5 V		-	100	μA
V _{CE(sat)} ⁽¹⁾	Collector-emitter saturation voltage	$I_{\rm C} = 8 \ {\rm A}$ $I_{\rm B} = 0.4 \ {\rm A}$		-	1	v
V _{BE(sat)} ⁽¹⁾	Base-emitter saturation voltage	I _C = 8 A I _B = 0.8 A		-	1.5	v
h _{FE} ⁽¹⁾	DC ourrent agin	I _C = 2 A V _{CE} = 1 V	60	-		
	DC current gain	$I_{C} = 4 A$ $V_{CE} = 1 V$	40	-		

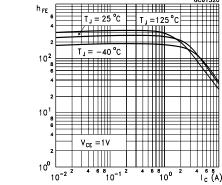
1. Pulse test: pulse duration \leq 300 µs, duty cycle \leq 2 %.

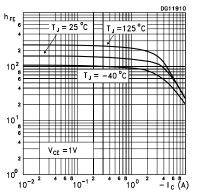
Note: For PNP types voltage and current values are negative.

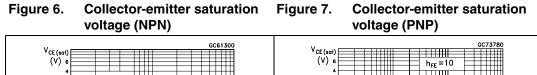


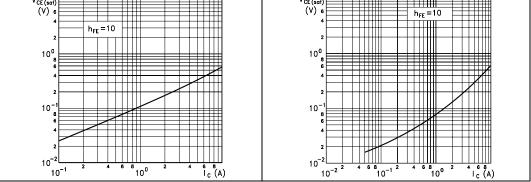
2.1 Electrical characteristics (curves)













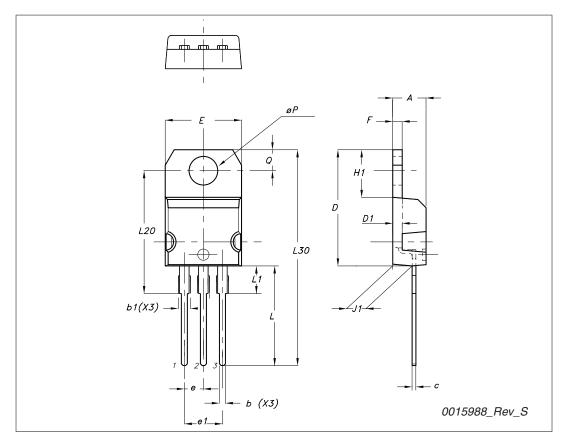
3 Package mechanical data

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.



	mm		
Dim	Min	Тур	Мах
A	4.40		4.60
b	0.61		0.88
b1	1.14		1.70
С	0.48		0.70
D	15.25		15.75
D1		1.27	
E	10		10.40
е	2.40		2.70
e1	4.95		5.15
F	1.23		1.32
H1	6.20		6.60
J1	2.40		2.72
L	13		14
L1	3.50		3.93
L20		16.40	
L30		28.90	
ØP	3.75		3.85
Q	2.65		2.95





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4 Revision history

Table 5.Document revision history

Date	Revision	Changes
21-Jun-2004	4	Document migration, no content change.
20-Oct-2009	5	Updated mechanical data.



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