1 Absolute maximum ratings

Table 2. Absolute maximum ratings

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-base voltage (I_E = 0)	80	V
V_{CEO}	Collector-emitter voltage (I_B = 0)		
V_{EBO}	Emitter-base voltage (I_C = 0)	5	V
I_C	Collector current	4	A
I_{CM}	Collector peak current	8	A
I_B	Base current	0.1	A
P_{TOT}	Total dissipation at T_{case} = 25 °C	40	W
T_{STG}	Storage temperature	-65 to 150	°C
T_J	Max. operating junction temperature	150	°C

2 Electrical characteristics

T_{case} = 25 °C; unless otherwise specified.

Table 3. Electrical characteristics

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector cut-off current (I_E = 0)	V_{CB} = 80 V V_{CB} = 80 V, T_C = 125 °C		-	0.1 0.5	mA
I_{CEO}	Collector cut-off current (I_B = 0)	V_{CE} = 80 V		-	0.1	mA
I_{EBO}	Emitter cut-off current (I_C = 0)	V_{EB} = 5 V		-	2	mA
$V_{CEO(sus)}$(1)	Collector-emitter sustaining voltage (I_B = 0)	I_C = 50 mA	80	-		V
$V_{CE(sat)}$(1)	Collector-emitter saturation voltage	I_C = 1.5 A I_B = 30 mA		-	2.5	V
		I_C = 4 A I_B = 40 mA		-	3	
$V_{BE(on)}$	Base-emitter on voltage	I_C = 1.5 A V_{CE} = 3 V		-	2.5	V
		I_C = 4 A V_{CE} = 3 V			3	
h_{FE}(1)	DC current gain	I_C = 1.5 A V_{CE} = 3 V	750	-		
		I_C = 4 A V_{CE} = 3 V	100	-		
h_{fe}	Small signal current gain	I_C = 1.5 A V_{CE} = 3 V f = 1 MHz	1	-		

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

2.1 Typical characteristic (curves)

Figure 2. DC current gain (V_{CE} = 3 V)

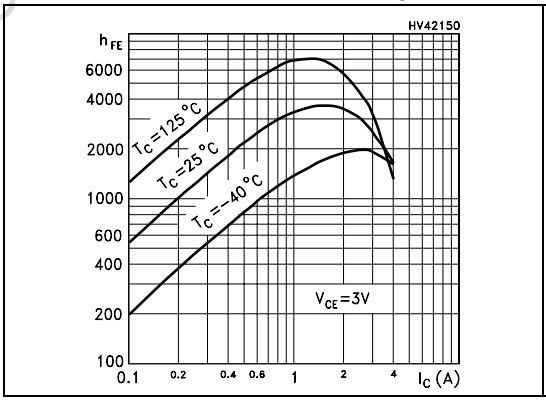


Figure 3. DC current gain (V_{CE} = 5 V)

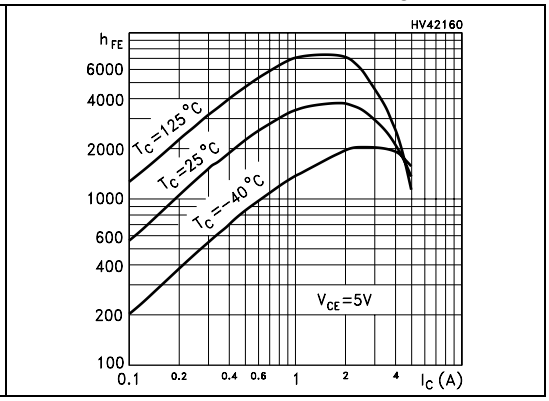


Figure 4. Collector-emitter saturation voltage

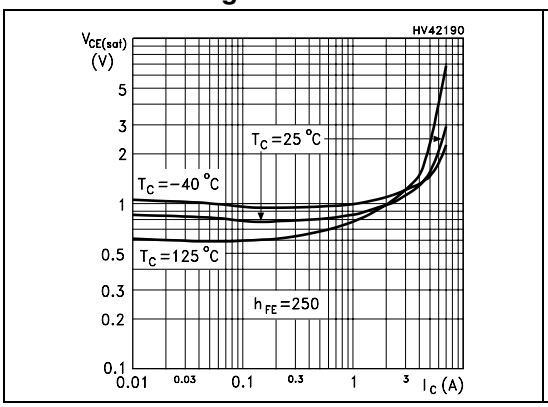


Figure 5. Base-emitter saturation voltage

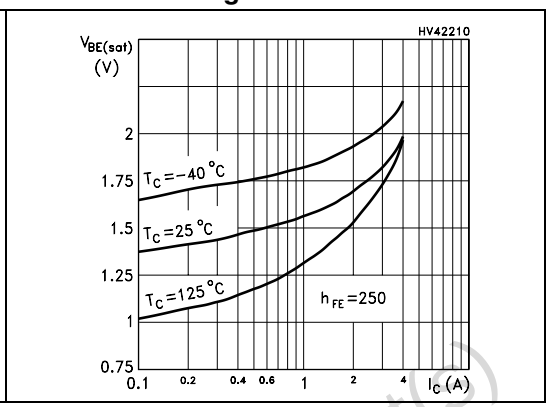


Figure 6. Base-emitter on voltage

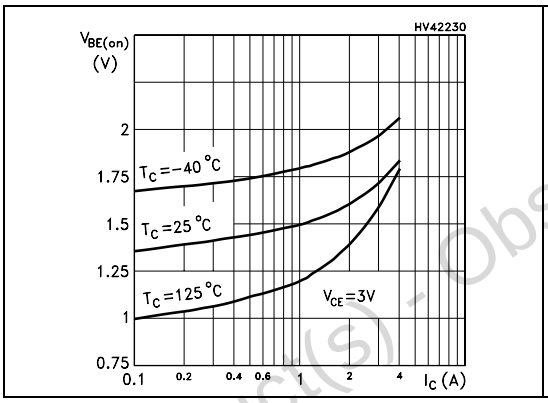


Figure 7. Resistive load switching time (on)

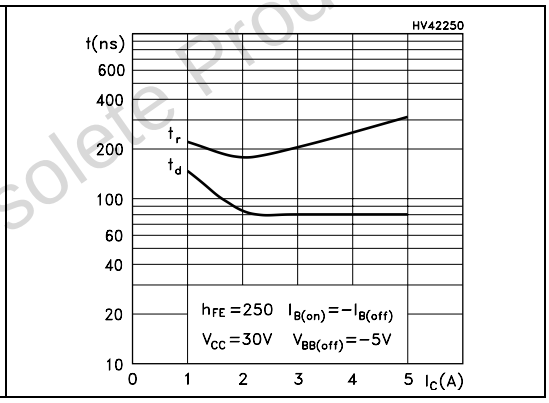
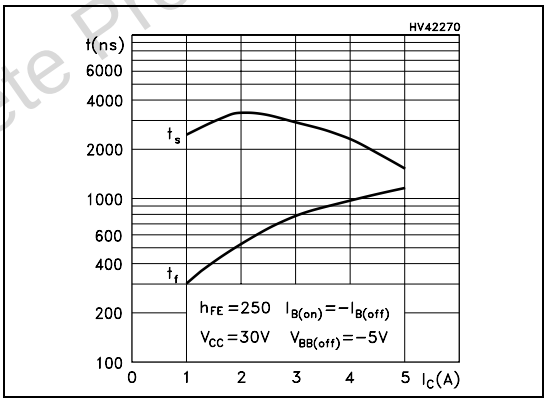


Figure 8. Resistive load switching time (off)

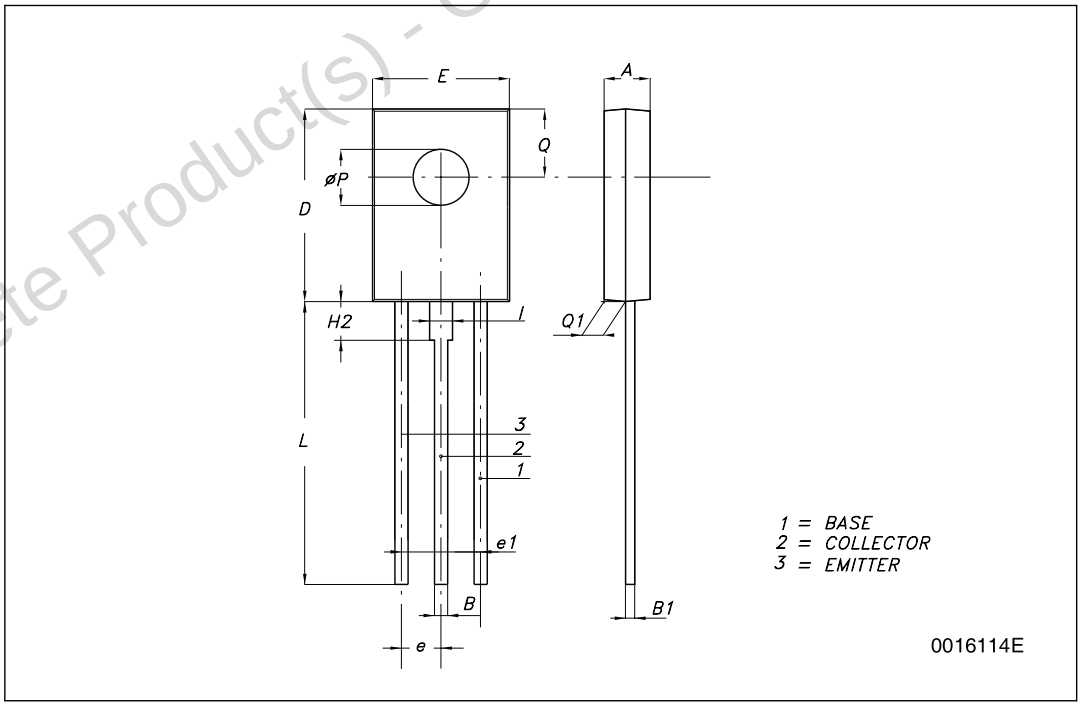


3 Package mechanical data

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.

SOT-32 (TO-126) MECHANICAL DATA

DIM.	mm.		
	MIN.	TYP	MAX.
A	2.4		2.9
B	0.64		0.88
B1	0.39		0.63
D	10.5		11.05
E	7.4		7.8
e	2.04	2.29	2.54
e1	4.07	4.58	5.08
L	15.3		16
P	2.9		3.2
Q		3.8	
Q1	1		1.52
H2		2.15	
I		1.27	



4 Revision history

Table 4. Document revision history

Date	Revision	Changes
21-Jun-2004	3	Document migration, no content change.
28-Aug-2009	4	Modified SOT-32 mechanical data.