

1 Electrical ratings

Table 2. Absolute maximum ratings

Symbol	Parameter	Value	Unit
V_{CEO}	Collector-emitter voltage ($I_B = 0$)	80	V
V_{CBO}	Collector-base voltage ($I_E = 0$)	100	V
V_{EBO}	Base-emitter voltage ($I_C = 0$)	7	V
I_C	Collector current	3	A
I_{CM}	Collector peak current ($t_P < 5$ ms)	6	A
I_B	Base current	1	A
I_{BM}	Base peak current ($t_P < 5$ ms)	2	A
P_{TOT}	Total dissipation at $T_c \leq 25$ °C	12.5	W
T_{stg}	Storage temperature	-65 to 150	°C
T_J	Total power dissipation at $T_c \leq 25$ °C	150	

Table 3. Thermal data

Symbol	Parameter	Value	Unit
R_{thJC}	Thermal resistance junction-case max	10	°C/W
R_{th-amb}	Thermal resistance junction-ambient max	83.3	°C/W

2 Electrical characteristics

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

Table 4. Electrical characteristics

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector cut-off current ($I_{\text{E}} = 0$)	$V_{\text{CB}} = 100\text{ V}$ $V_{\text{CB}} = 100\text{ V}, T_{\text{c}} = 150\text{ }^{\circ}\text{C}$			0.1 0.1	μA mA
V_{EBO}	Emitter cut-off current ($I_{\text{C}} = 0$)	$V_{\text{EB}} = 7\text{ V}$			0.1	μA
$V_{\text{CEO(sus)}}^{(1)}$	Collector-emitter sustaining voltage ($I_{\text{B}} = 0$)	$I_{\text{C}} = 10\text{ mA}$	80			V
$V_{\text{CE(sat)}}^{(1)}$	Collector-emitter saturation voltage	$I_{\text{C}} = 0.5\text{ A}$ $I_{\text{B}} = 50\text{ mA}$ $I_{\text{C}} = 1.5\text{ A}$ $I_{\text{B}} = 0.15\text{ A}$ $I_{\text{C}} = 3\text{ A}$ $I_{\text{B}} = 0.6\text{ A}$			0.3 0.9 1.7	V
$V_{\text{BE(sat)}}^{(1)}$	Base-emitter saturation voltage	$I_{\text{C}} = 1.5\text{ A}$ $I_{\text{B}} = 0.15\text{ A}$ $I_{\text{C}} = 3\text{ A}$ $I_{\text{B}} = 0.6\text{ A}$			1.5 2	V V
$V_{\text{BE(on)}}^{(1)}$	Base-emitter on voltage	$I_{\text{C}} = 0.5\text{ A}$ $V_{\text{CE}} = 1\text{ V}$			1.2	V
h_{FE}	DC current gain	$I_{\text{C}} = 0.1\text{ A}$ $V_{\text{CE}} = 1\text{ V}$ $I_{\text{C}} = 0.5\text{ A}$ $V_{\text{CE}} = 1\text{ V}$ $I_{\text{C}} = 1.5\text{ A}$ $V_{\text{CE}} = 1\text{ V}$	50 30 12		250	
f_{T}	Transistor frequency	$I_{\text{C}} = 0.1\text{ A}$ $V_{\text{CE}} = 10\text{ V}$ $f = 10\text{ MHz}$	50			MHz
C_{CBO}	Collector-base capacitance ($I_{\text{E}} = 0$)	$V_{\text{CB}} = 10\text{ V}$ $f = 0.1\text{ MHz}$			40	pF

1. Pulse test: pulse duration $\leq 300\text{ }\mu\text{s}$, duty cycle $\leq 1.5\text{ }\%$.

3 Package mechanical data

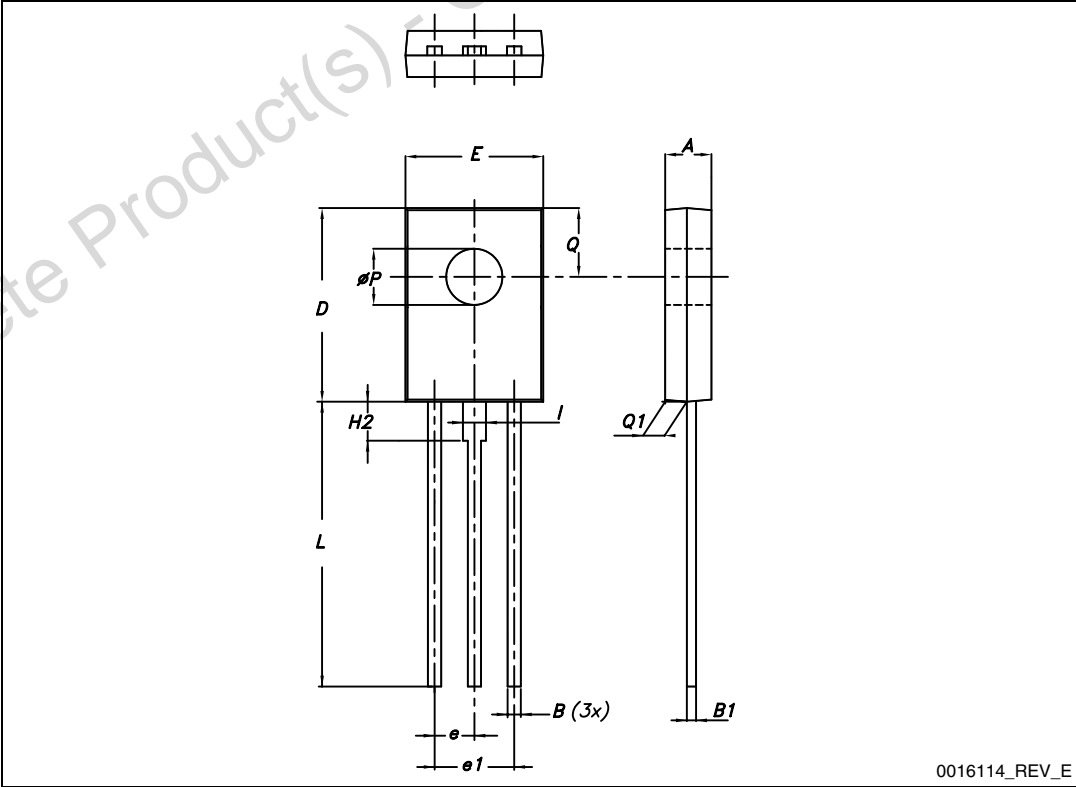
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Table 5. SOT-32 (TO-126) mechanical data

Dim.	mm.		
	Min.	Typ.	Max.
A	2.40		2.90
B	0.64		0.88
B1	0.39		0.63
D	10.50		11.05
E	7.40		7.80
e	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	

Figure 2. SOT-32 (TO-126) drawing



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4 Revision history

Table 6. Document revision history

Date	Revision	Changes
08-Aug-2011	1	Initial release

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