

1 Electrical 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 ($I_B = 0$)	-80	V
V_{EBO}	Emitter-base voltage ($I_C = 0$)	-5	V
I_C	Collector current	2	A
I_{CM}	Collector peak current ($t_P < 5$ ms)	4	A
I_B	Base current	0.5	A
I_{BM}	Base peak current ($t_P < 5$ ms)	1	A
P_{TOT}	Total dissipation at $T_{amb} = 25^\circ\text{C}$	1.4	W
T_J	Operating junction temperature	-65 to 150	$^\circ\text{C}$
T_{STG}	Storage temperature		

Table 3. Thermal data

Symbol	Parameter	Value	Unit
$R_{thJA}^{(1)}$	Thermal resistance junction-ambient max	89	$^\circ\text{C}/\text{W}$

1. Device mounted on a PCB area of 1 cm².

2 Electrical characteristics

$T_{CASE} = 25\text{ °C}$ unless otherwise specified.

Table 4. Electrical characteristics

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
I_{CES}	Collector cut-off current ($V_{BE} = 0$)	$V_{CE} = -80\text{ V}$			-500	μA
I_{CEO}	Collector cut-off current ($I_B = 0$)	$V_{CE} = -80\text{ V}$			-1	mA
I_{EBO}	Emitter cut-off current ($I_C = 0$)	$V_{EB} = -5\text{ V}$			-100	μA
$V_{CEO(sus)}^{(1)}$	Collector-emitter sustaining voltage ($I_B = 0$)	$I_C = -10\text{ mA}$	-80			V
$V_{CE(sat)}^{(1)}$	Collector-emitter saturation voltage	$I_C = -100\text{ mA}, I_B = -10\text{ mA}$ $I_C = -1\text{ A}, I_B = -100\text{ mA}$	-15		-100 -250	mV mV
$V_{BE(sat)}^{(1)}$	Base-emitter saturation voltage	$I_C = -100\text{ mA}, I_B = -10\text{ mA}$ $I_C = -1\text{ A}, I_B = -100\text{ mA}$			-1 -1.1	V V
$h_{FE}^{(1)}$	DC current gain	$I_C = -100\text{ mA}, V_{CE} = -2\text{ V}$ $I_C = -500\text{ mA}, V_{CE} = -2\text{ V}$ $I_C = -1\text{ A}, V_{CE} = -2\text{ V}$	140 100 80	190	300	
f_T	Transition frequency	$I_C = -0.1\text{ A}, V_{CE} = -10\text{ V}$		50		MHz

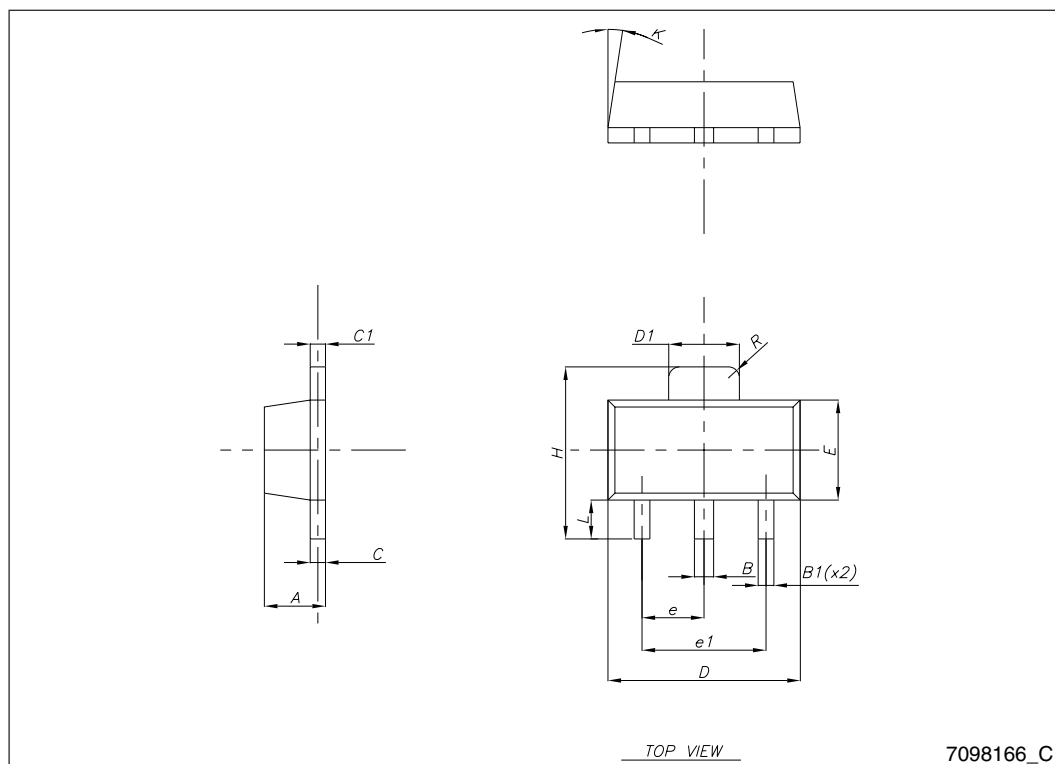
1. Pulse test: pulse duration $\leq 300\text{ }\mu\text{s}$, duty cycle $\leq 2\%$.

3 Package mechanical data

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SOT-89 mechanical data

Dim.	mm		
	Min.	Typ.	Max.
A	1.40		1.60
B	0.44		0.56
B1	0.36		0.48
C	0.35		0.44
C1	0.35		0.44
D	4.40		4.60
D1	1.62		1.83
E	2.29		2.60
e	1.42		1.57
e1	2.92		3.07
H	3.94		4.25
K	1°		8°
L	0.89		1.20
R		0.25	



4 Revision history

Table 5. Document revision history

Date	Revision	Changes
14-Jan-2010	1	Initial release.

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