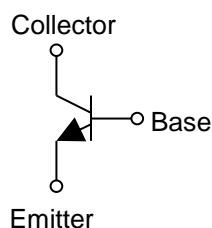


Parameter	Value
V_{CEO}	30V
I_C	1.0A

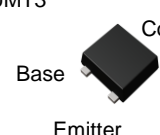
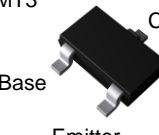
●Features

- 1) Suitable for Middle Power Driver
- 2) Complementary PNP Types : 2SB1733, 2SB1710
- 3) Low $V_{CE(sat)}$
 $V_{CE(sat)} = 0.35V(\text{Max.})$
 $(I_C/I_B = 500mA/25mA)$
- 4) Lead Free/RoHS Compliant.

●Inner circuit



●Outline

<p>TUMT3</p>  <p>Collector</p> <p>Base</p> <p>Emitter</p> <p>2SD2703</p>	<p>TSMT3</p>  <p>Collector</p> <p>Base</p> <p>Emitter</p> <p>2SD2675 (SC-96)</p>
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●Applications

Motor driver , LED driver
Power supply

●Packaging specifications

Part No.	Package	Package size (mm)	Taping code	Reel size (mm)	Tape width (mm)	Basic ordering unit (pcs)	Marking
2SD2703	TUMT3	2021	TL	180	8	3,000	EU
2SD2675	TSMT3	2928	TL	180	8	3,000	EU

●Absolute maximum ratings (Ta = 25°C)

Parameter		Symbol	Values	Unit
Collector-base voltage		V _{CBO}	30	V
Collector-emitter voltage		V _{CEO}	30	V
Emitter-base voltage		V _{EBO}	6	V
Collector current	DC	I _C	1.0	A
	Pulsed	I _{CP}	2.0 ^{*1}	A
Power dissipation	2SD2703	P _D	0.4 ^{*2}	W
			0.8 ^{*3}	
	2SD2675	P _D	0.5 ^{*2}	W
			1.0 ^{*3}	
Junction temperature		T _j	150	°C
Range of storage temperature		T _{stg}	−55 to +150	°C

*1 Pw=1ms , single pulse

*2 Each terminal mounted on a reference land

*3 Mounted on a ceramic board (25×25×0.8 mm)

●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Collector-emitter breakdown voltage	BV_{CBO}	$I_C = 10\mu A$	30	-	-	V
Collector-base breakdown voltage	BV_{CEO}	$I_C = 1mA$	30	-	-	V
Emitter-base breakdown voltage	BV_{EBO}	$I_E = 10\mu A$	6	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB} = 30V$	-	-	100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 6V$	-	-	100	nA
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500mA, I_B = 25mA$	-	120	350	mV
DC current gain	h_{FE}	$V_{CE} = 2V, I_C = 100mA$	270	-	680	-
Transition frequency	f_T	$V_{CE} = 2V, I_E = -100mA$ $f = 100MHz$	-	320	-	MHz
Output capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0A$ $f = 1MHz$	-	7	-	pF

●Electrical characteristic curves(Ta = 25°C)

Fig.1 Ground Emitter Propagation Characteristics

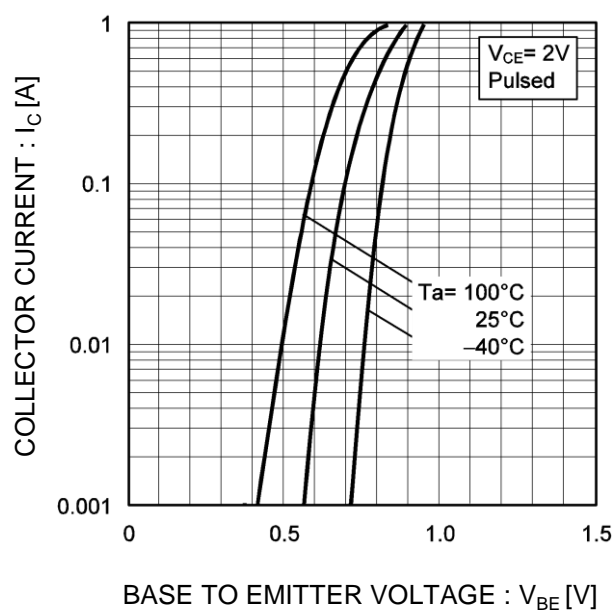


Fig.2 Typical Output Characteristics

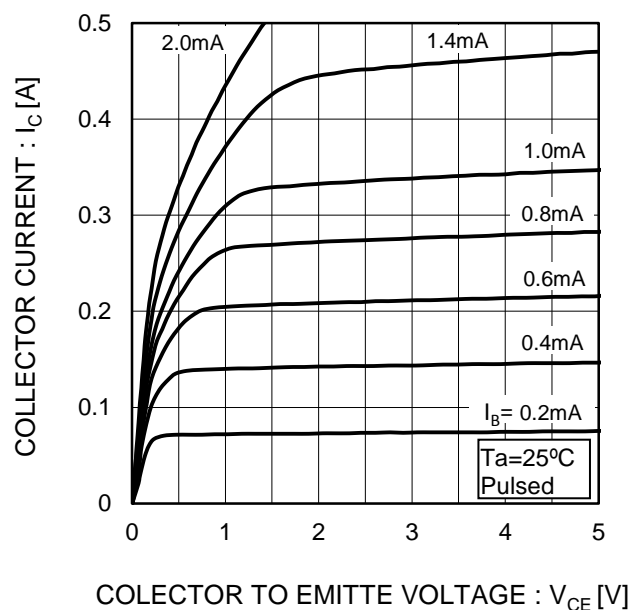


Fig.3 DC Current Gain vs. Collector Current(I)

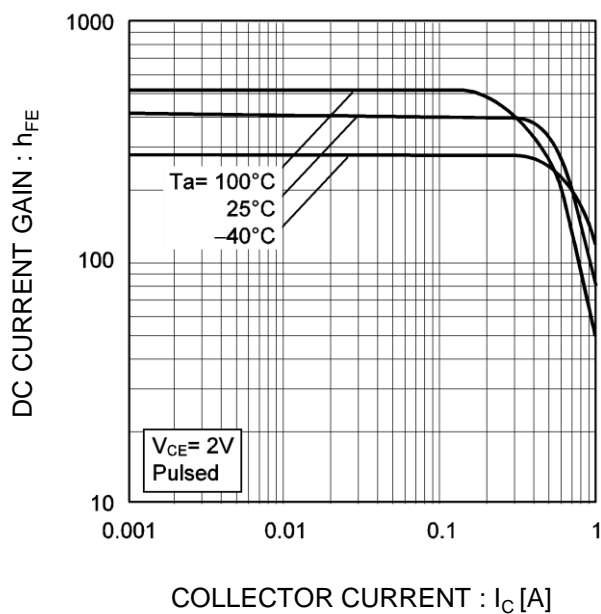
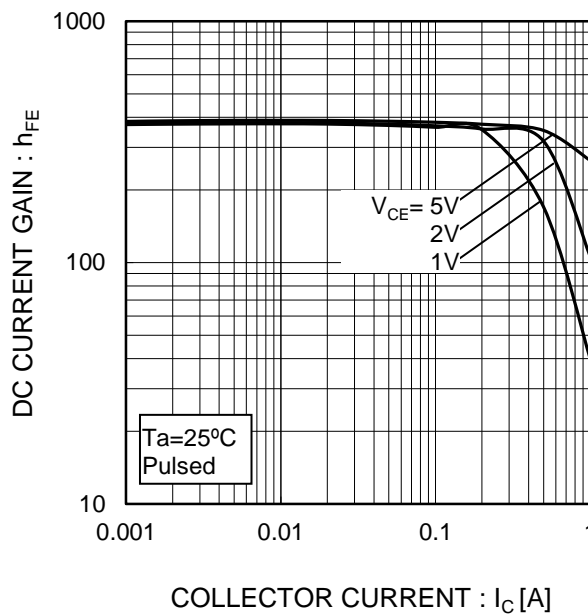


Fig.4 DC Current Gain vs. Collector Current(II)



●Electrical characteristic curves(Ta = 25°C)

Fig.5 Collector-Emitter Saturation Voltage vs. Collector Current (I)

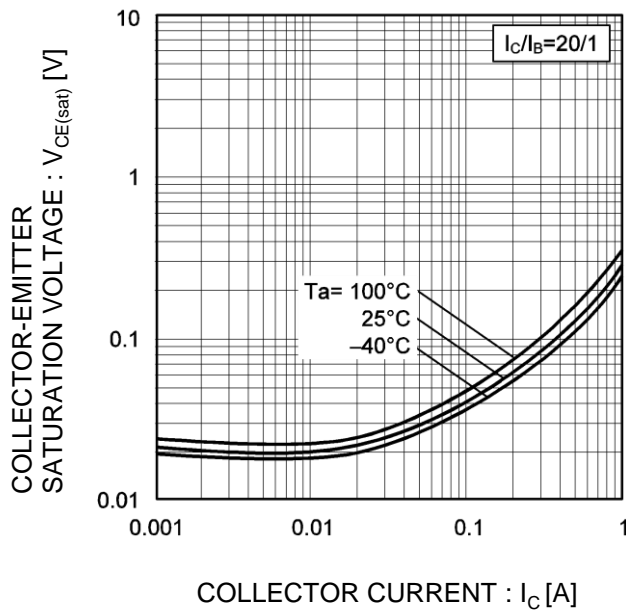


Fig.6 Collector-Emitter Saturation Voltage vs. Collector Current (II)

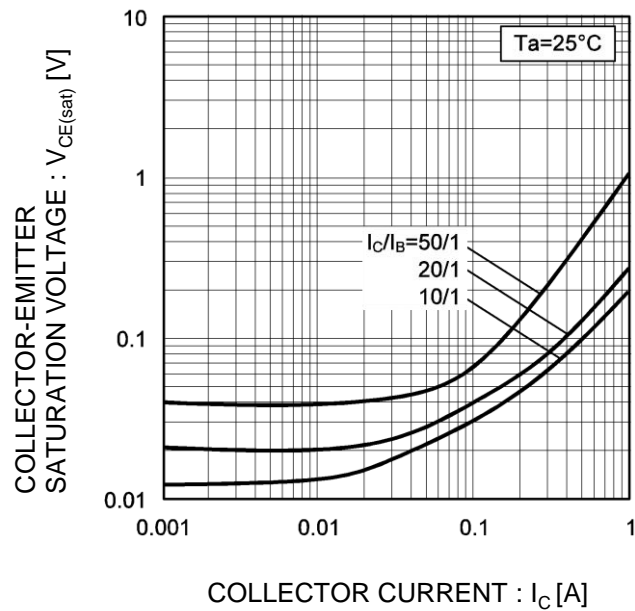


Fig.7 Base-Emitter Saturation Voltage vs. Collector Current

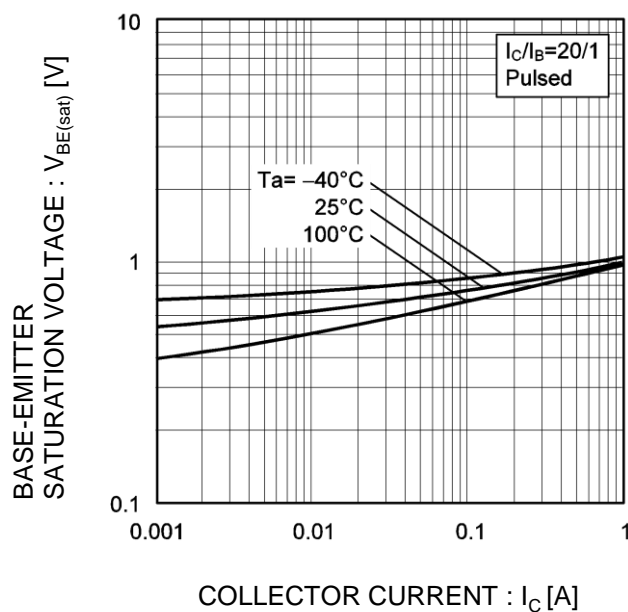
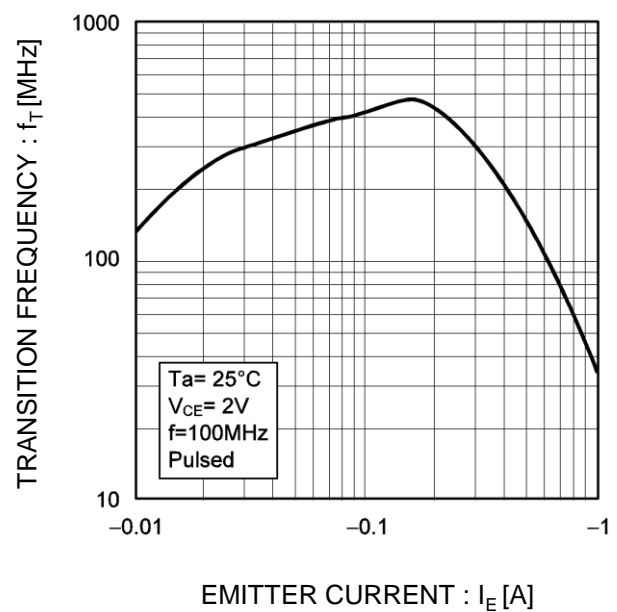


Fig.8 Gain Bandwidth Product vs. Emitter Current



●Electrical characteristic curves(Ta = 25°C)

Fig.9 Emitter input capacitance vs.
Emitter-Base Voltage
Collector output capacitance vs.
Collector-Base Voltage

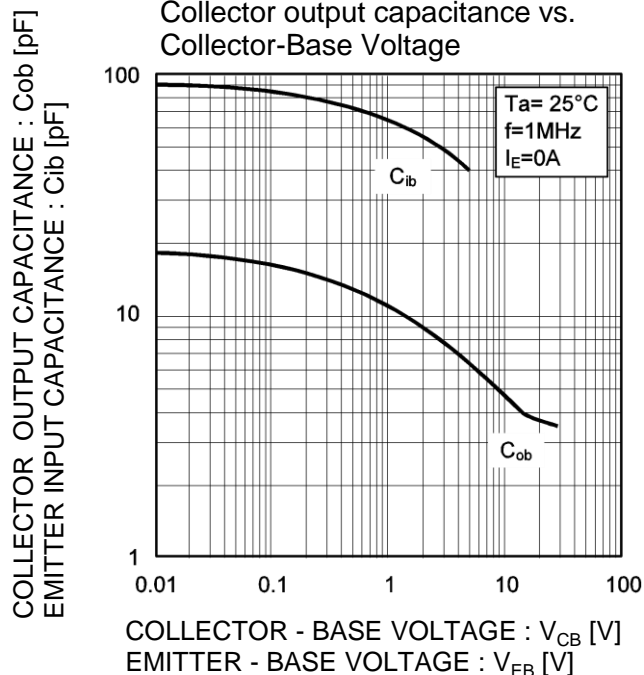


Fig.10 Safe Operating Area

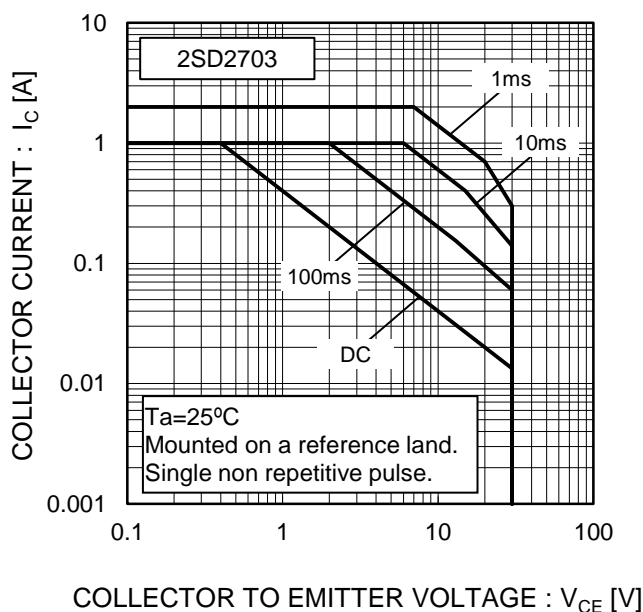
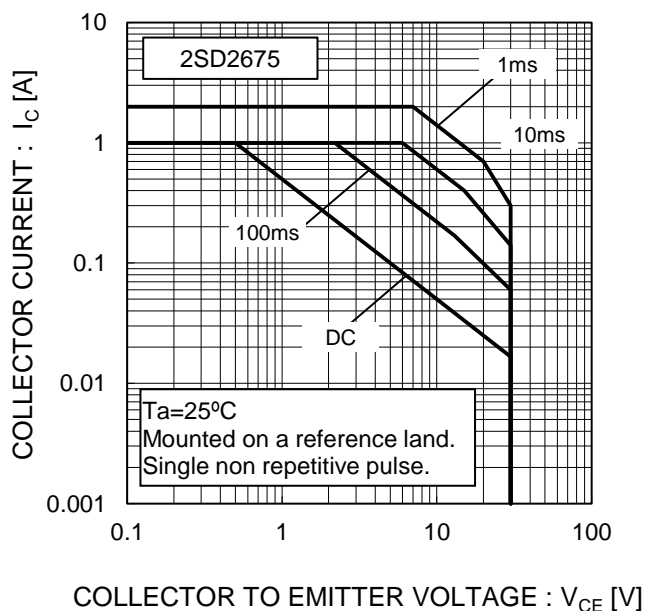
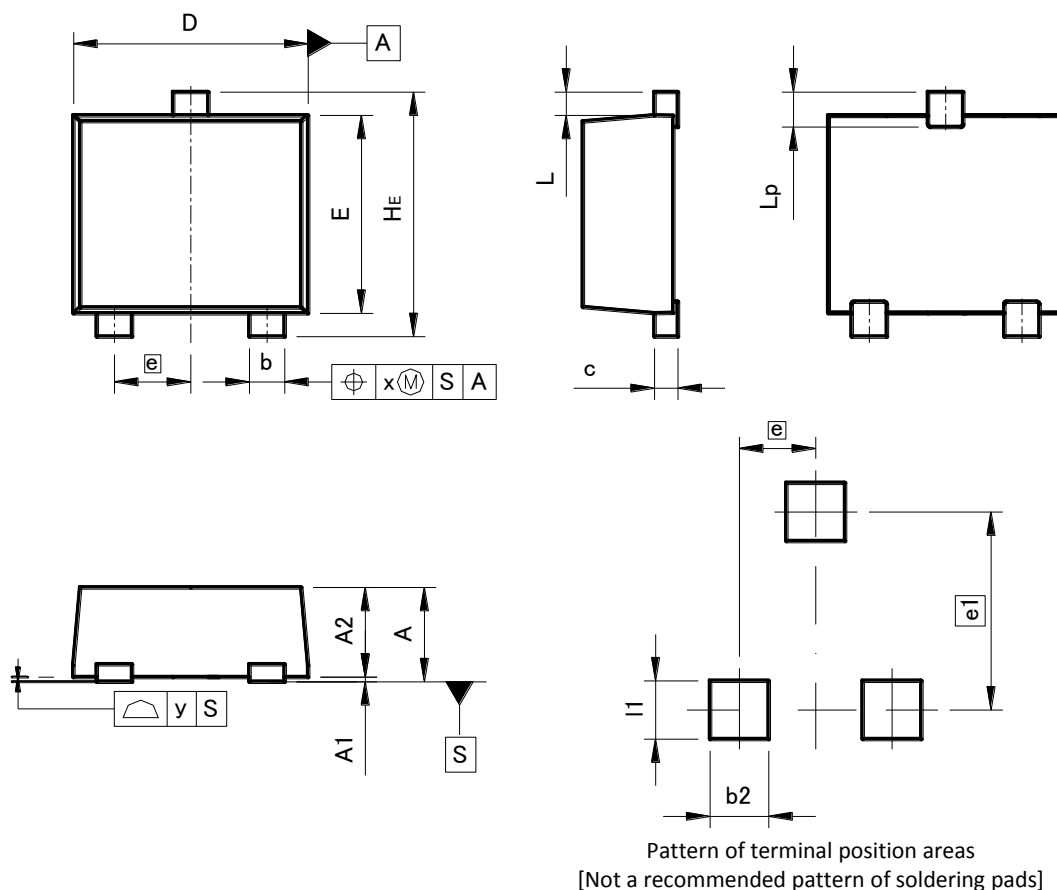


Fig.10 Safe Operating Area



●Dimensions (Unit : mm)

TUMT3



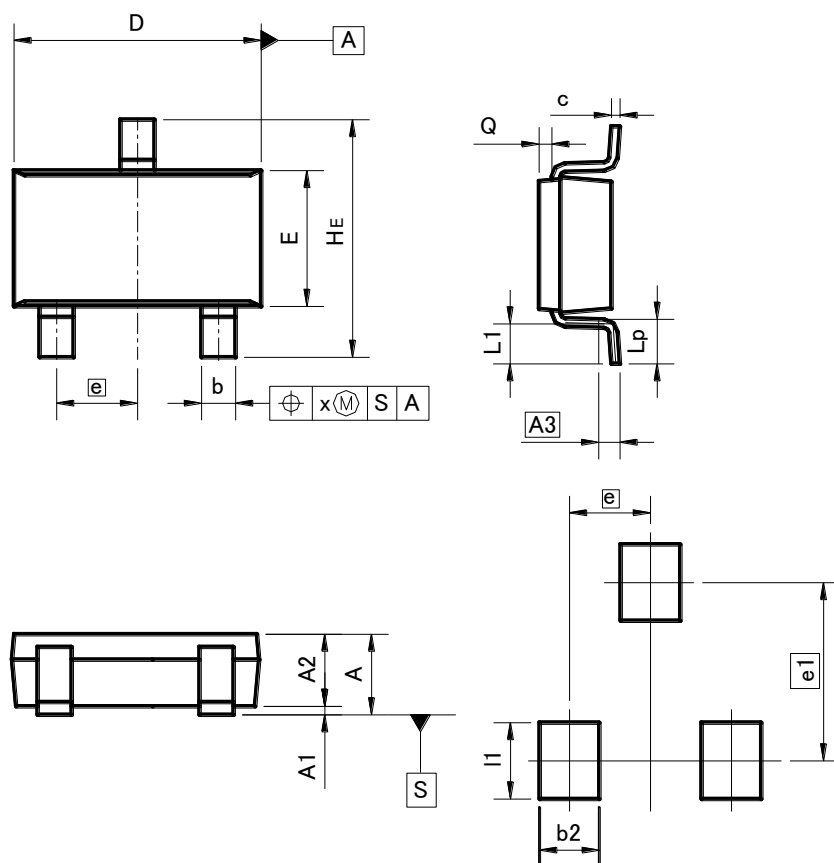
DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	—	0.85	—	0.033
A1	0.00	0.10	0.000	0.004
A2	0.72	0.82	0.028	0.032
b	0.25	0.40	0.010	0.016
c	0.12	0.22	0.005	0.009
D	1.90	2.10	0.075	0.083
E	1.60	1.80	0.063	0.071
e	0.65		0.026	
HE	2.00	2.20	0.079	0.087
L	0.20		0.008	
Lp	—	0.40	—	0.016
x	—	0.10	—	0.004
y	—	0.10	—	0.004

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
b2	—	0.50	—	0.020
e1	1.70		0.067	
l1	—	0.50	—	0.020

Dimension in mm / inches

●Dimensions (Unit : mm)

TSMT3



Pattern of terminal position areas
[Not a recommended pattern of soldering pads]

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	—	1.00	—	0.039
A1	0.00	0.10	0.000	0.004
A2	0.75	0.95	0.030	0.037
A3	0.25		0.010	
b	0.35	0.50	0.014	0.020
c	0.10	0.26	0.004	0.010
D	2.80	3.00	0.110	0.118
E	1.50	1.80	0.059	0.071
e	0.95		0.037	
HE	2.60	3.00	0.102	0.118
L1	0.30	0.60	0.012	0.024
Lp	0.40	0.70	0.016	0.028
Q	0.05	0.25	0.002	0.010
x	—	0.20	—	0.008

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
b2	—	0.70	—	0.028
e1	2.10		0.083	
l1	—	0.90	—	0.035

Dimension in mm / inches

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