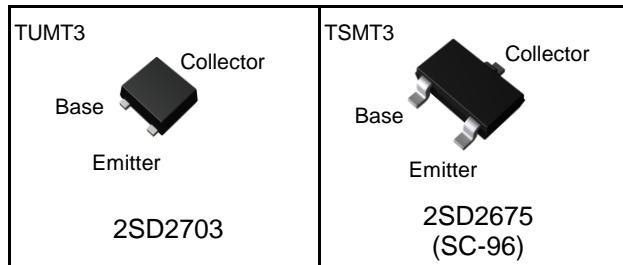


Parameter	Value
$V_{CEO}$	30V
$I_C$	1.0A

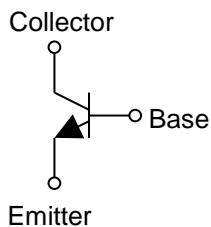
### ●Outline



### ●Features

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

### ●Inner circuit



### ●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 <sub>CBO</sub>	30	V
Collector-emitter voltage		V <sub>CEO</sub>	30	V
Emitter-base voltage		V <sub>EBO</sub>	6	V
Collector current	DC	I <sub>C</sub>	1.0	A
	Pulsed	I <sub>CP</sub>	2.0 <sup>*1</sup>	A
Power dissipation	2SD2703	P <sub>D</sub>	0.4 <sup>*2</sup>	W
			0.8 <sup>*3</sup>	
	2SD2675	P <sub>D</sub>	0.5 <sup>*2</sup>	W
			1.0 <sup>*3</sup>	
Junction temperature		T <sub>j</sub>	150	°C
Range of storage temperature		T <sub>stg</sub>	-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 <sub>CBO</sub>	I <sub>C</sub> = 10µA	30	-	-	V
Collector-base breakdown voltage	BV <sub>CEO</sub>	I <sub>C</sub> = 1mA	30	-	-	V
Emitter-base breakdown voltage	BV <sub>EBO</sub>	I <sub>E</sub> = 10µA	6	-	-	V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = 30V	-	-	100	nA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = 6V	-	-	100	nA
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 500mA, I <sub>B</sub> = 25mA	-	120	350	mV
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> = 2V, I <sub>C</sub> = 100mA	270	-	680	-
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = 2V, I <sub>E</sub> = -100mA f = 100MHz	-	320	-	MHz
Output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0A f = 1MHz	-	7	-	pF

● Electrical characteristic curves ( $T_a = 25^\circ\text{C}$ )

Fig.1 Ground Emitter Propagation Characteristics

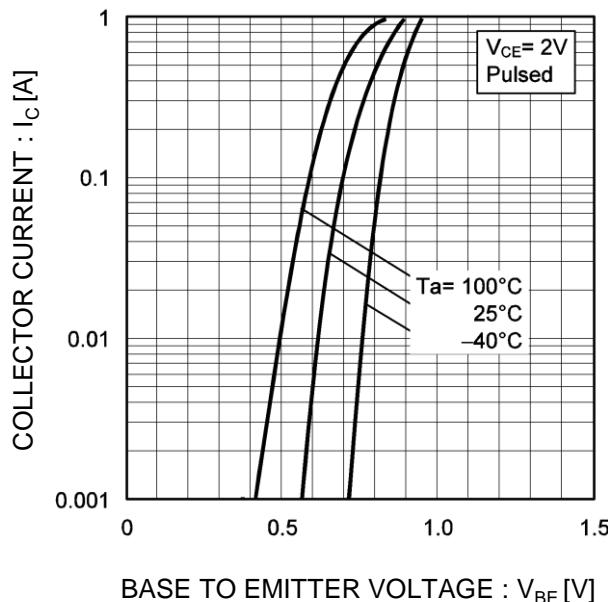


Fig.2 Typical Output Characteristics

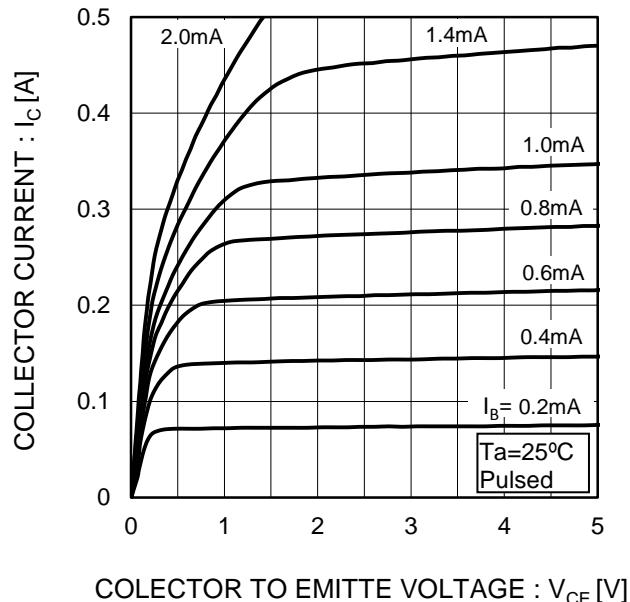


Fig.3 DC Current Gain vs. Collector Current(I)

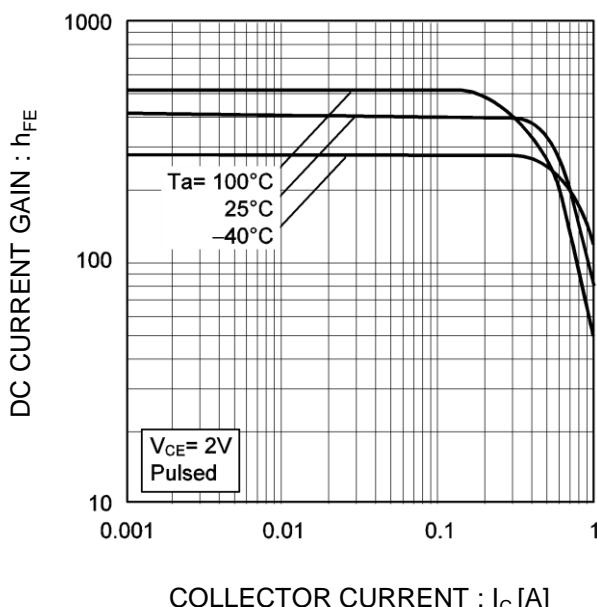
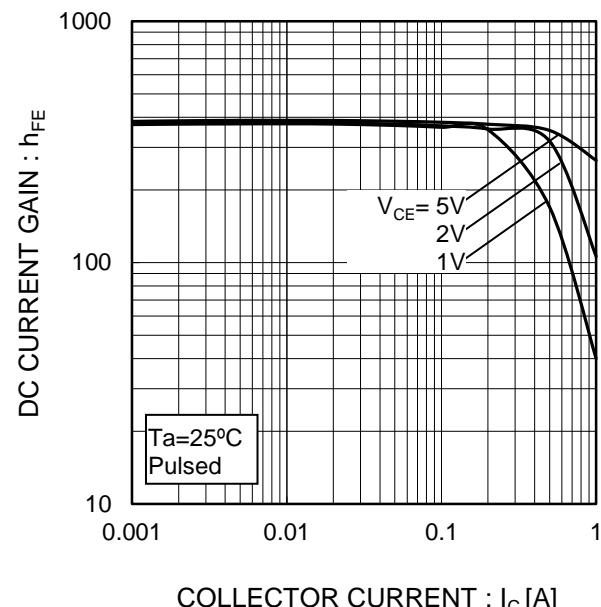


Fig.4 DC Current Gain vs. Collector Current(II)



●Electrical characteristic curves( $T_a = 25^\circ\text{C}$ )

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

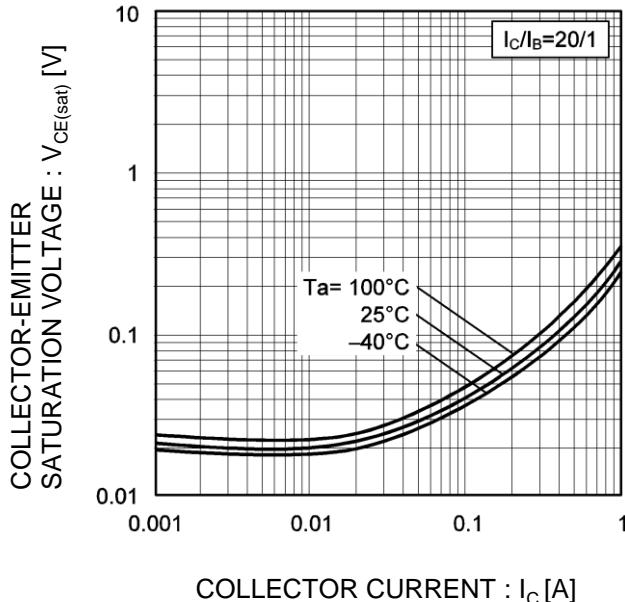


Fig.6 Collector-Emitter Saturation Voltage vs. Collector Current (II)

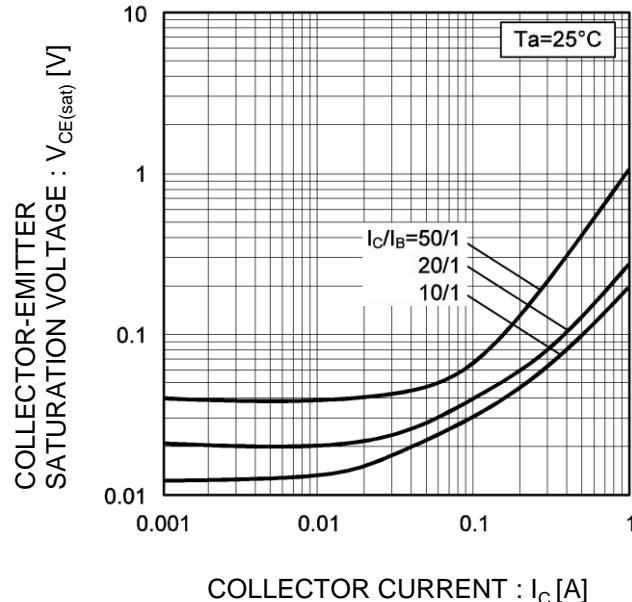


Fig.7 Base-Emitter Saturation Voltage vs. Collector Current

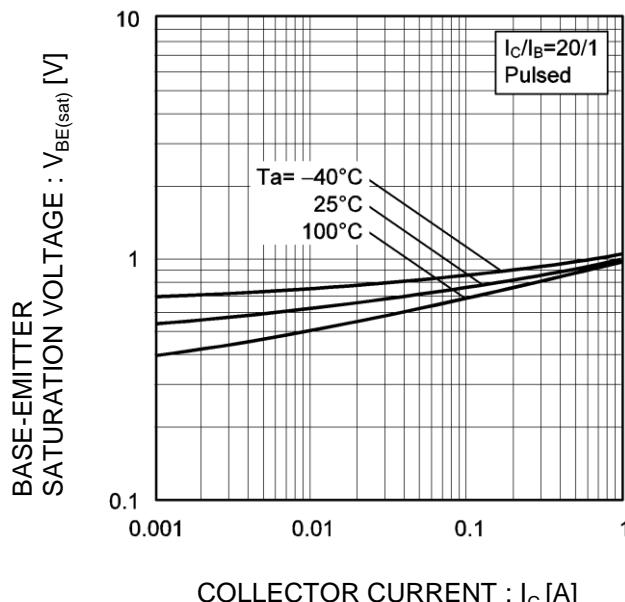
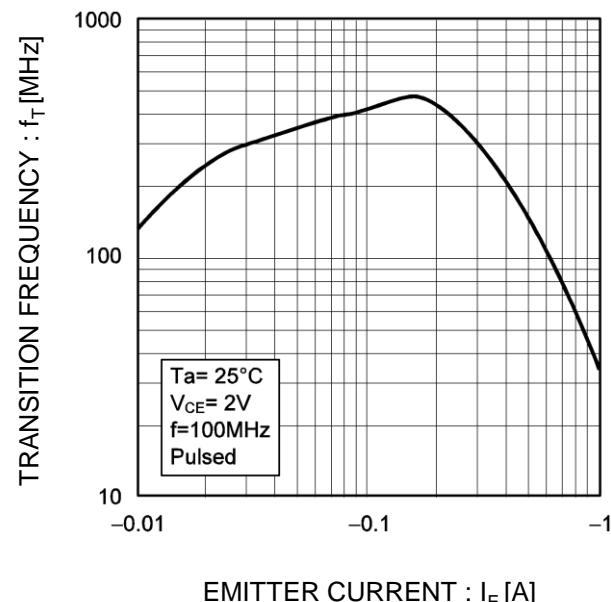


Fig.8 Gain Bandwidth Product vs. Emitter Current



● Electrical characteristic curves (Ta = 25°C)

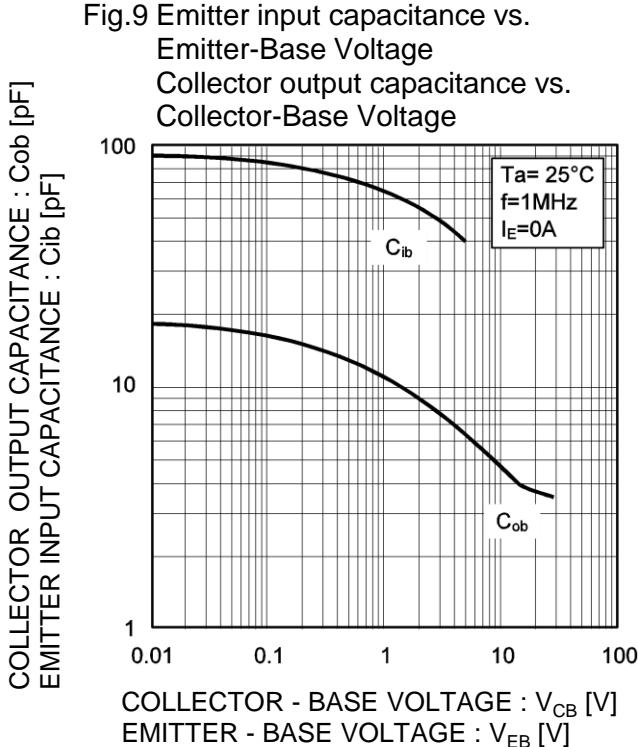


Fig.10 Safe Operating Area

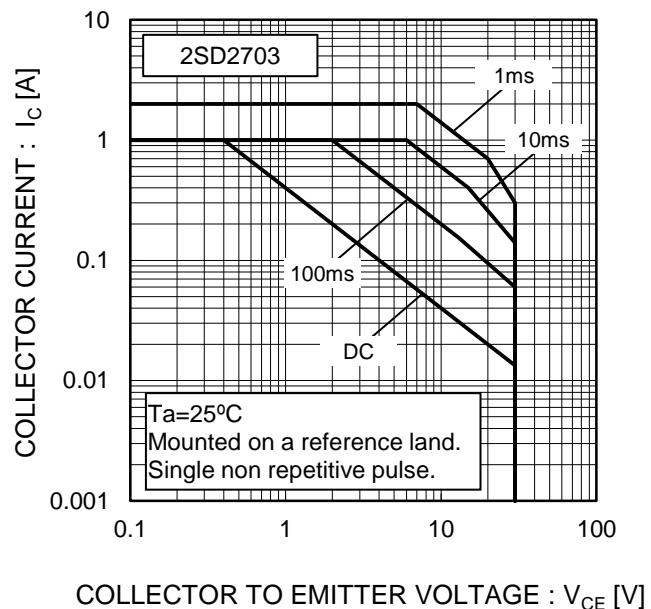
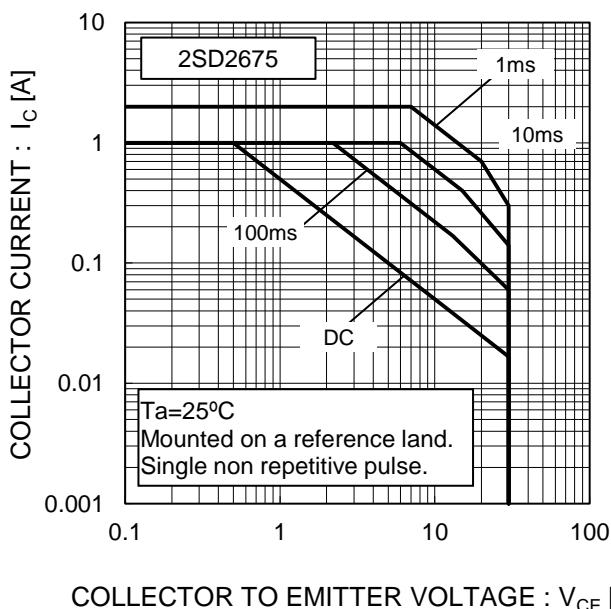
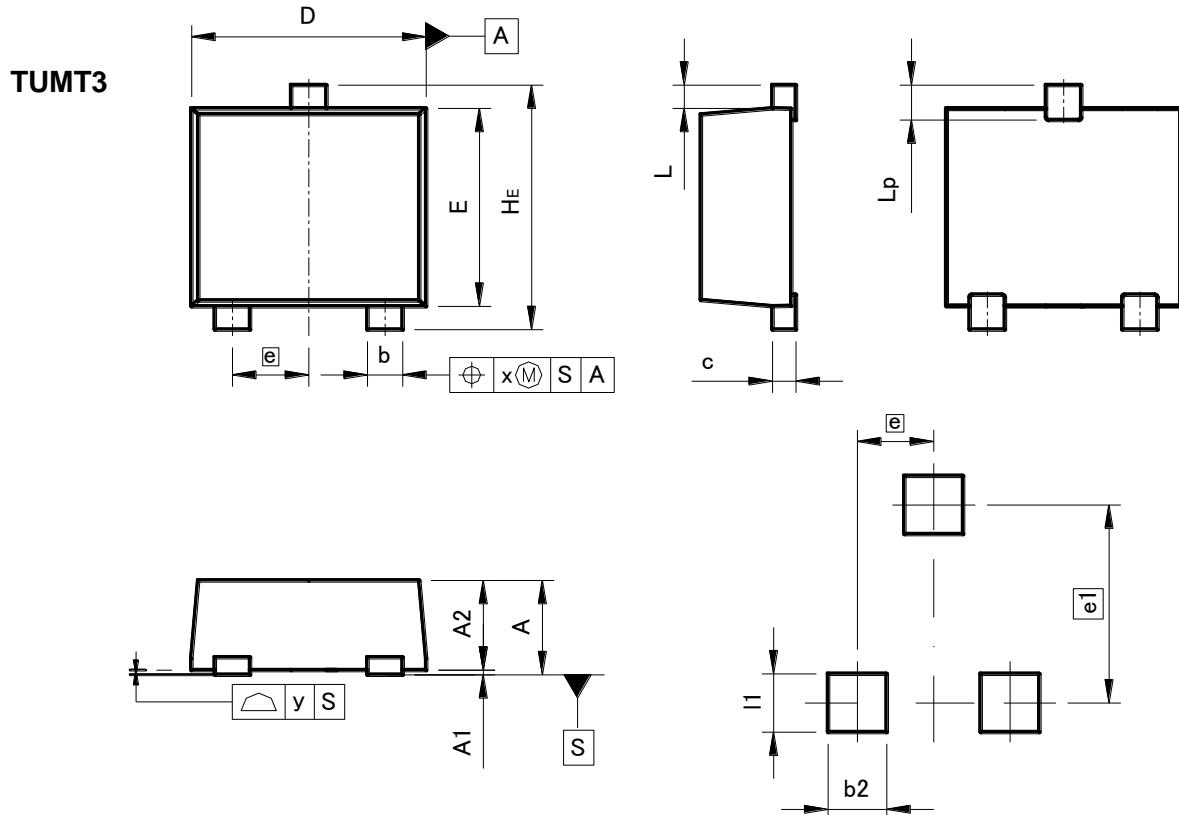


Fig.10 Safe Operating Area



## ●Dimensions (Unit : mm)



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

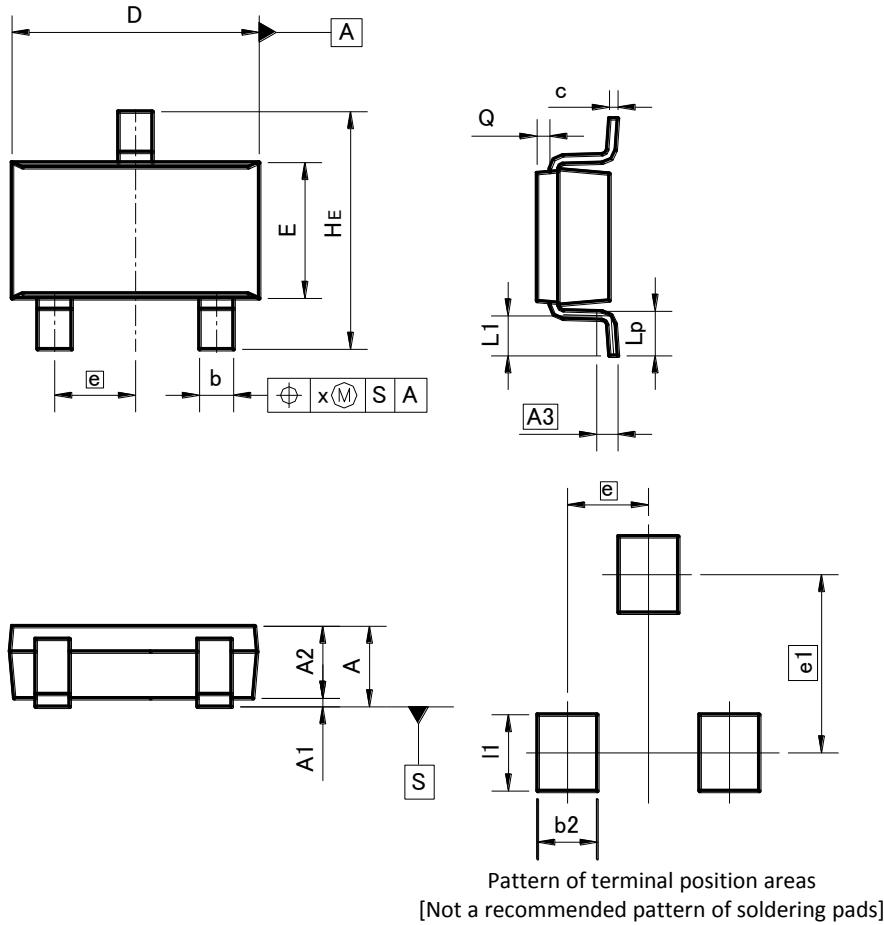
DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	—	0.85	—	0.033
A <sub>1</sub>	0.00	0.10	0.000	0.004
A <sub>2</sub>	0.72	0.82	0.028	0.032
b	0.25	0.40	0.010	0.016
c	0.12	0.22	0.005	0.009
D	1.90	2.10	0.075	0.083
E	1.60	1.80	0.063	0.071
e	0.65		0.026	
H <sub>E</sub>	2.00	2.20	0.079	0.087
L	0.20		0.008	
L <sub>p</sub>	—	0.40	—	0.016
x	—	0.10	—	0.004
y	—	0.10	—	0.004

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
b <sub>2</sub>	—	0.50	—	0.020
e <sub>1</sub>	1.70		0.067	
l <sub>1</sub>	—	0.50	—	0.020

Dimension in mm / inches

## ●Dimensions (Unit : mm)

TSMT3



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	
I1	—	0.90	—	0.035

Dimension in mm / inches

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