



Parameter	Tr1 and Tr2
$V_{CEO}$	50V
$I_C$	100mA

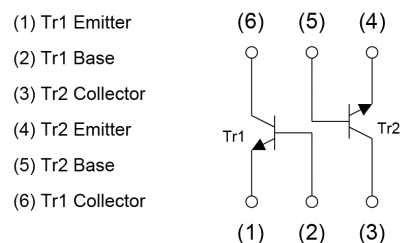
### ●Outline

<b>VMT6</b>  <b>VT6X2</b>	<b>EMT6</b>  <b>EMX52</b> <b>(SC-107C)</b>
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### ●Features

- 1) General Purpose.
- 2) Two 2SCR523 chips in one package.
- 3) Transistor elements are independent, eliminating interface.
- 4) Mounting cost and area can be cut in half.
- 5) Lead Free/RoHS Compliant.

### ●Inner circuit



### ●Application

Switching, LED driver

### ●Packaging specifications

Part No.	Package	Package size	Taping code	Reel size (mm)	Tape width (mm)	Basic ordering unit.(pcs)	Marking
VT6X2	VMT6	1212	T2R	180	8	8000	X2
EMX52	EMT6	1616	T2R	180	8	8000	X52

● **Absolute maximum ratings** ( $T_a = 25^\circ\text{C}$ )

<For Tr1 and Tr2 in common>

Parameter		Symbol	Values	Unit
Collector-base voltage		$V_{CBO}$	50	V
Collector-emitter voltage		$V_{CEO}$	50	V
Emitter-base voltage		$V_{EBO}$	5	V
Collector current		$I_C$	100	mA
		$I_{CP}^{*1}$	200	mA
Power dissipation	VT6X2	$P_D^{*2*3}$	150	mW
	EMX52		150	
Junction temperature		$T_j$	150	$^\circ\text{C}$
Range of storage temperature		$T_{stg}$	-55 to +150	$^\circ\text{C}$

● **Electrical characteristics** ( $T_a = 25^\circ\text{C}$ )

<For Tr1 and Tr2 in common>

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Collector-base breakdown voltage	$BV_{CBO}$	$I_C = 50\mu\text{A}$	50	-	-	V
Collector-emitter breakdown voltage	$BV_{CEO}$	$I_C = 1\text{mA}$	50	-	-	V
Emitter-base breakdown voltage	$BV_{EBO}$	$I_E = 50\mu\text{A}$	5	-	-	V
Collector cut-off current	$I_{CBO}$	$V_{CB} = 50\text{V}$	-	-	0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 5\text{V}$	-	-	0.1	$\mu\text{A}$
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$	-	0.10	0.30	V
DC current gain	$h_{FE}$	$V_{CE} = 6\text{V}, I_C = 1\text{mA}$	120	-	560	-
Transition frequency	$f_T$	$V_{CE} = 10\text{V}, I_E = -10\text{mA}, f = 100\text{MHz}$	-	350	-	MHz
Output capacitance	$C_{ob}$	$V_{CB} = 10\text{V}, I_E = 0\text{A}, f = 1\text{MHz}$	-	1.6	-	pF

\*1  $P_w=1\text{ms}$  Single Pulse

\*2 Each terminal mounted on a reference footprint

\*3 120mW per element must not be exceeded.

●Electrical characteristic curves(Ta=25°C)

<For Tr1 and Tr2 in common>

Fig.1 Grounded Emitter Propagation Characteristics

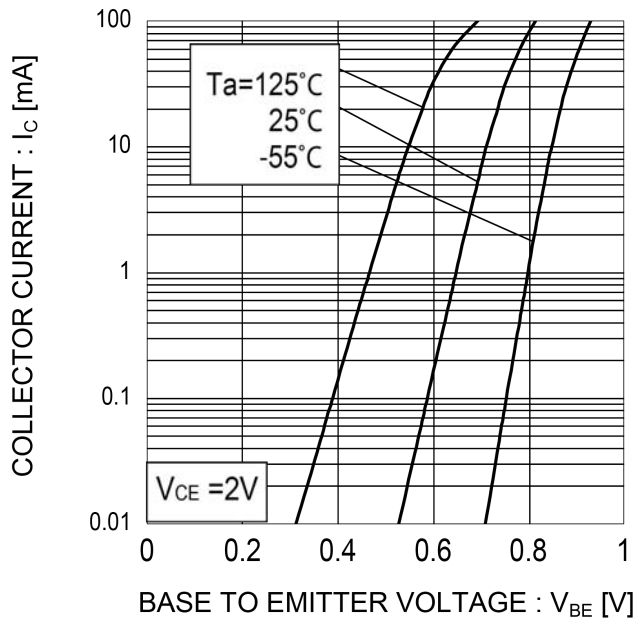


Fig.2 Typical Output Characteristics

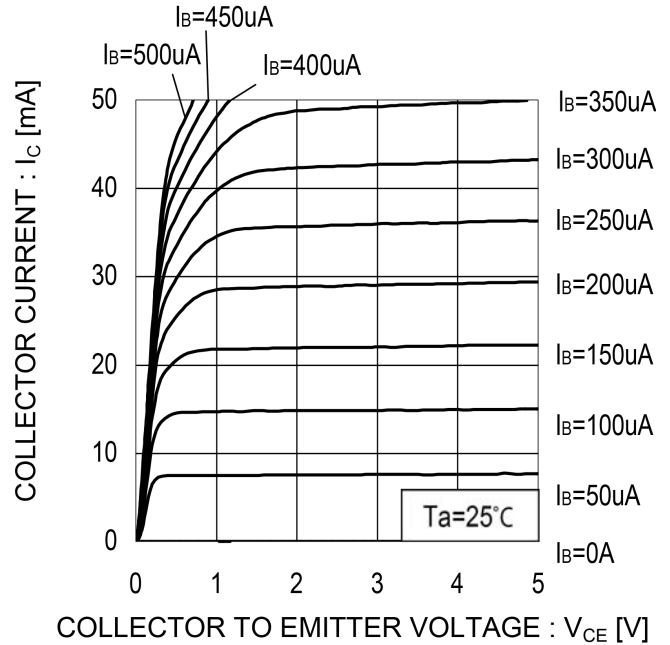


Fig.3 DC Current Gain vs. Collector Current(I)

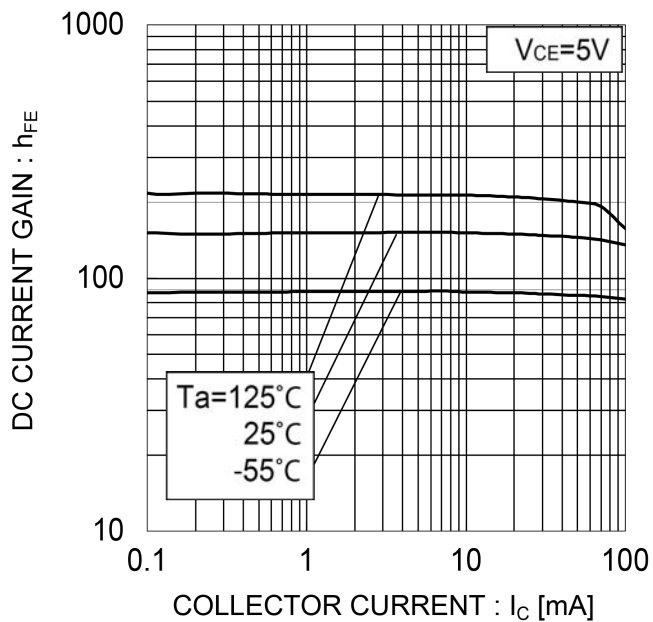
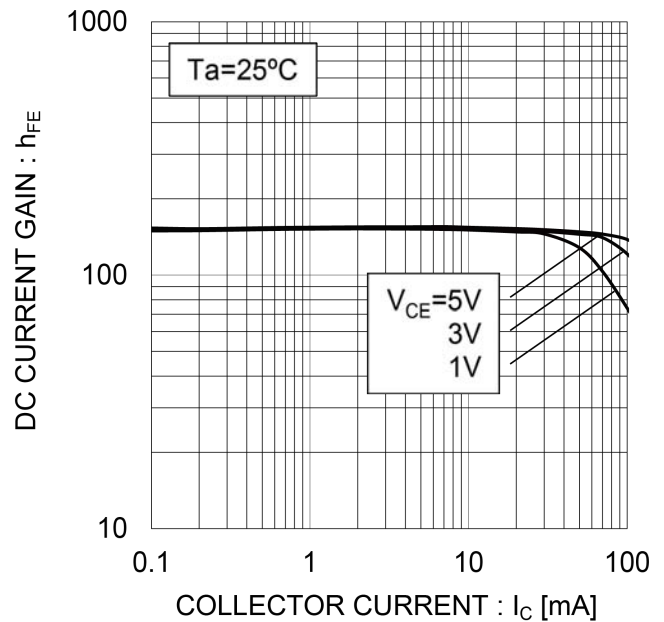


Fig.4 DC Current Gain vs. Collector Current(II)



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

<For Tr1 and Tr2 in common>

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

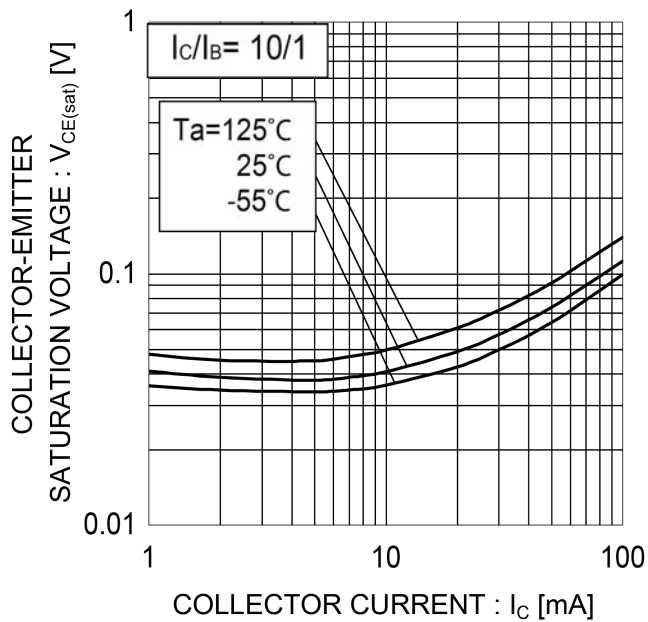


Fig.6 Collector-Emitter Saturation Voltage vs. Collector Current(II)

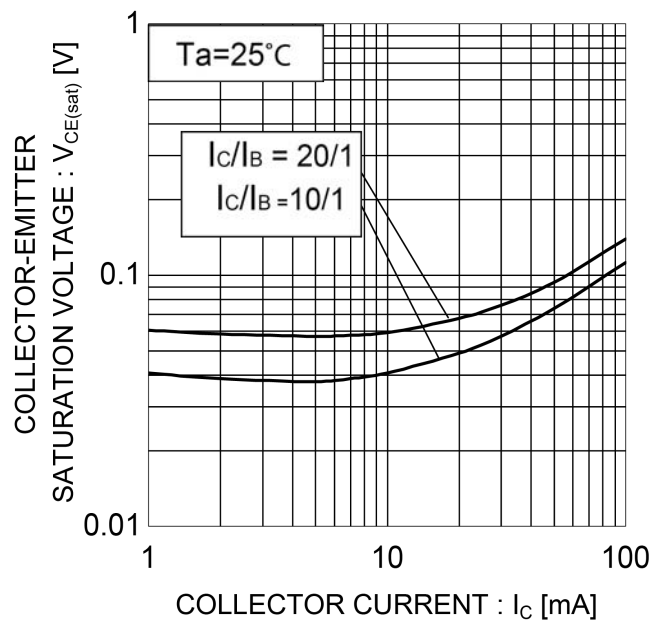


Fig.7 Base-Emitter Saturation Voltage vs. Collector Current

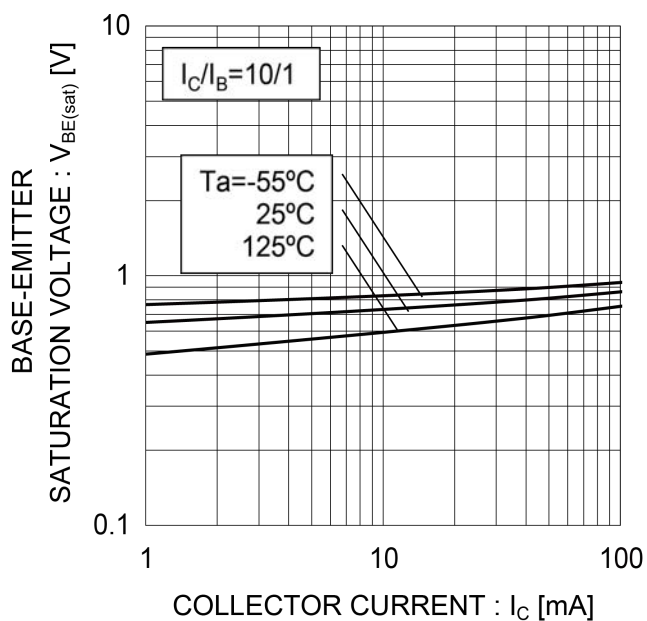
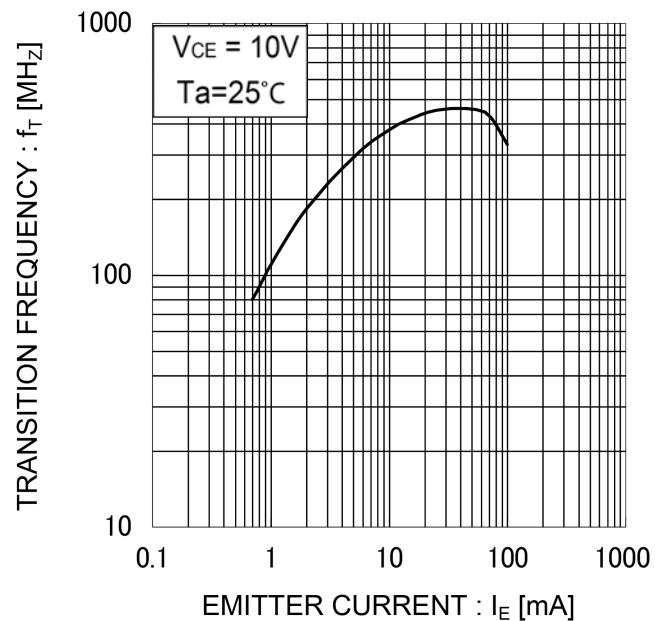


Fig.8 Gain Bandwidth Product vs. Emitter Current



●Electrical characteristic curves (Ta=25°C)  
<For Tr1 and Tr2 in common>

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

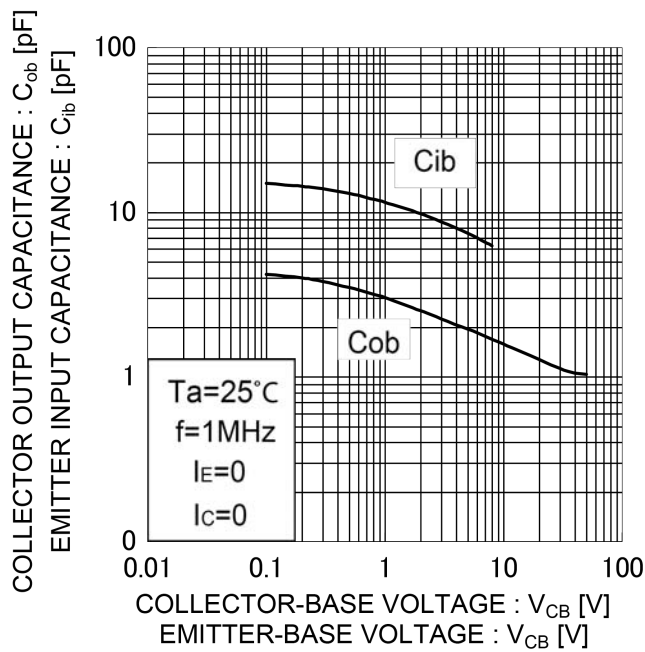
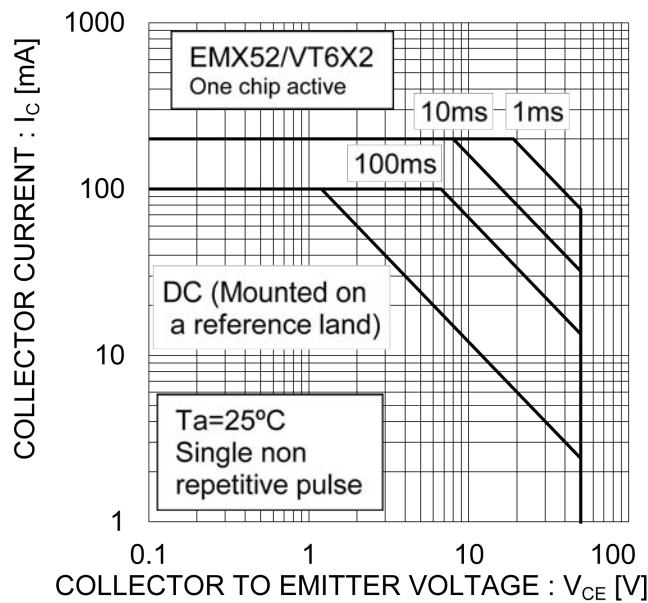
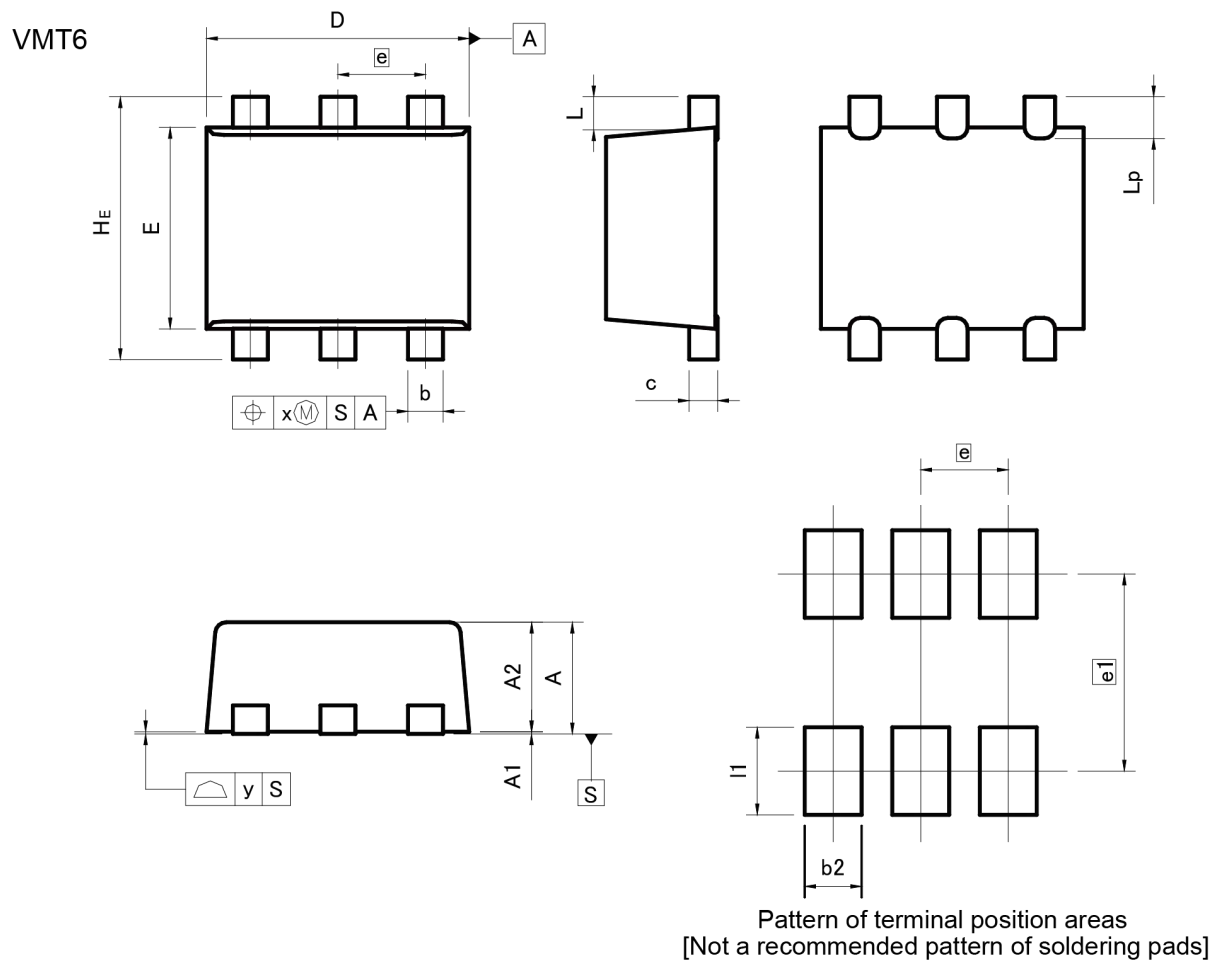


Fig.10 Safe Operating Area



## ●Dimensions



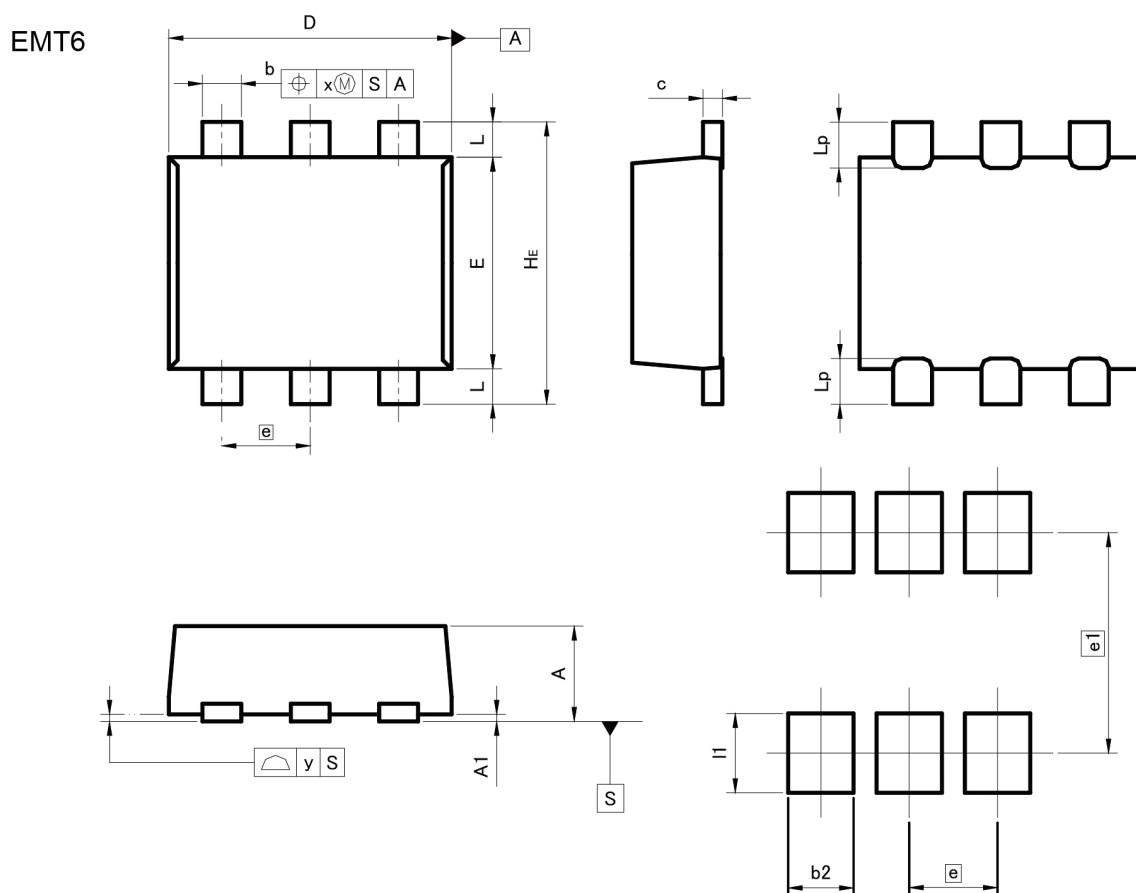
DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.42	0.62	0.017	0.024
A1	0.00	0.05	0.000	0.002
A2	0.40	0.60	0.016	0.024
b	0.11	0.21	0.004	0.008
c	0.08	0.18	0.003	0.007
D	1.10	1.30	0.043	0.051
E	0.82	1.02	0.032	0.04
e	0.40		0.016	
HE	1.10	1.30	0.043	0.051
L	0.14		0.006	
Lp	0.10	0.30	0.004	0.012
x	—	0.05	—	0.002
y	—	0.10	—	0.004

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
b2	—	0.26	—	0.010
e1	0.90		0.035	
l1	—	0.40	—	0.016

Dimension in mm/inches

## ●Dimensions



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

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.45	0.55	0.018	0.022
A1	0.00	0.10	0.000	0.004
b	0.17	0.27	0.007	0.011
c	0.08	0.18	0.003	0.007
D	1.50	1.70	0.059	0.067
E	1.10	1.30	0.043	0.051
e	0.50		0.020	
HE	1.50	1.70	0.059	0.067
L	0.10	0.30	0.004	0.012
Lp	–	0.35	–	0.014
x	–	0.10	–	0.004
y	–	0.10	–	0.004

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
b2	–	0.37	–	0.015
e1	1.25		0.049	
l1	–	0.45	–	0.018

Dimension in mm/inches

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