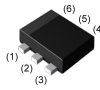
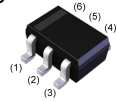


Parameter	Tr1 and Tr2
V_{CEO}	12V
I_C	500mA

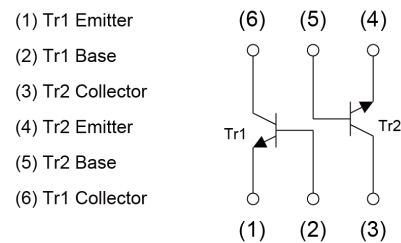
●Outline

<p>SOT-563</p>  <p>EMX18 (EMT6)</p>	<p>SOT-363</p>  <p>UMX18N (UMT6)</p>
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●Features

- 1) Two 2SC5585 chips in a EMT or UMT package.
- 2) Mounting possible with EMT3 or UMT3 automatic mounting machines.
- 3) Transistor elements are independent, eliminating interference.
- 4) Mounting cost and area can be cut in half.

●Inner circuit



●Application

LOW FREQUENCY AMPLIFIER, DRIVER

●Packaging specifications

Part No.	Package	Package size	Taping code	Reel size (mm)	Tape width (mm)	Basic ordering unit.(pcs)	Marking
EMX18	SOT-563 (EMT6)	1616	T2R	180	8	8000	X18
UMX18N	SOT-363 (UMT6)	2021	TN	180	8	3000	X18

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

<It is the same ratings for the Tr1 and Tr2>

Parameter		Symbol	Values	Unit
Collector-base voltage		V_{CBO}	15	V
Collector-emitter voltage		V_{CEO}	12	V
Emitter-base voltage		V_{EBO}	6	V
Collector current		I_{C}	500	mA
		I_{CP}^{*1}	1.0	A
Power dissipation	EMX18	P_{D}^{*2*3}	150	mW
	UMX18N		150	
Junction temperature		T_{j}	150	$^\circ\text{C}$
Range of storage temperature		T_{stg}	-55 to +150	$^\circ\text{C}$

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

<It is the same characteristics for the Tr1 and Tr2>

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Collector-base breakdown voltage	BV_{CBO}	$I_{\text{C}} = 10\mu\text{A}$	15	-	-	V
Collector-emitter breakdown voltage	BV_{CEO}	$I_{\text{C}} = 1\text{mA}$	12	-	-	V
Emitter-base breakdown voltage	BV_{EBO}	$I_{\text{E}} = 10\mu\text{A}$	6	-	-	V
Collector cut-off current	I_{CBO}	$V_{\text{CB}} = 15\text{V}$	-	-	100	nA
Emitter cut-off current	I_{EBO}	$V_{\text{EB}} = 6\text{V}$	-	-	100	nA
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}$	$I_{\text{C}} = 200\text{mA}, I_{\text{B}} = 10\text{mA}$	-	90	250	mV
DC current gain	h_{FE}	$V_{\text{CE}} = 2\text{V}, I_{\text{C}} = 10\text{mA}$	270	-	680	-
Transition frequency	f_{T}	$V_{\text{CE}} = 2\text{V}, I_{\text{E}} = -10\text{mA}, f = 100\text{MHz}$	-	320	-	MHz
Output capacitance	C_{ob}	$V_{\text{CB}} = 10\text{V}, I_{\text{E}} = 0\text{A}, f = 1\text{MHz}$	-	7.5	-	pF

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

*2 Each terminal mounted on a reference land.

*3 120mW per element must not be exceeded.

● **Electrical characteristic curves** ($T_a = 25^\circ\text{C}$)
 <For Tr1 and Tr2 in common>

Fig.1 Grounded emitter propagation characteristics

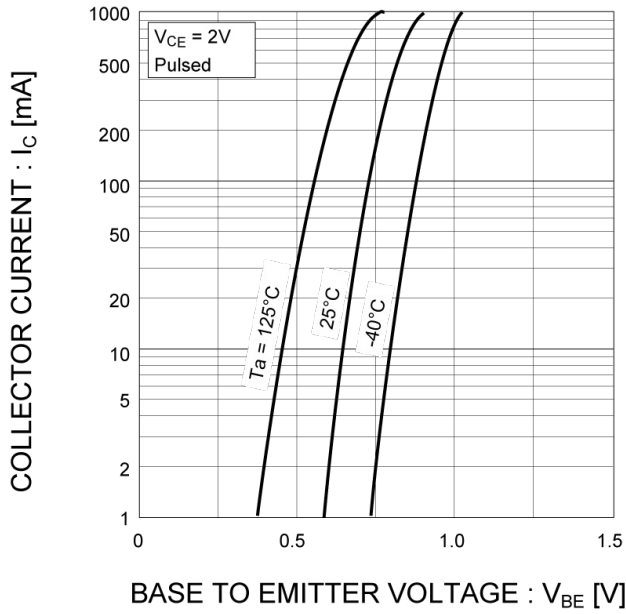


Fig.2 Typical output characteristics

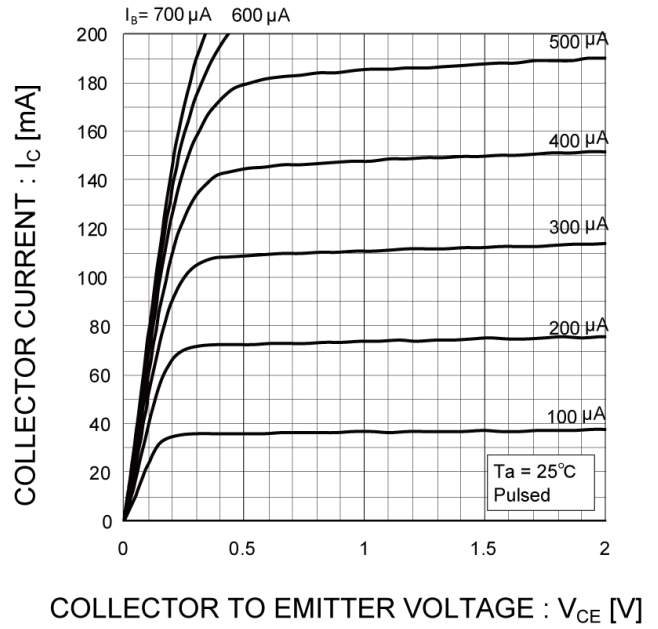


Fig.3 DC current gain vs. collector current (I)

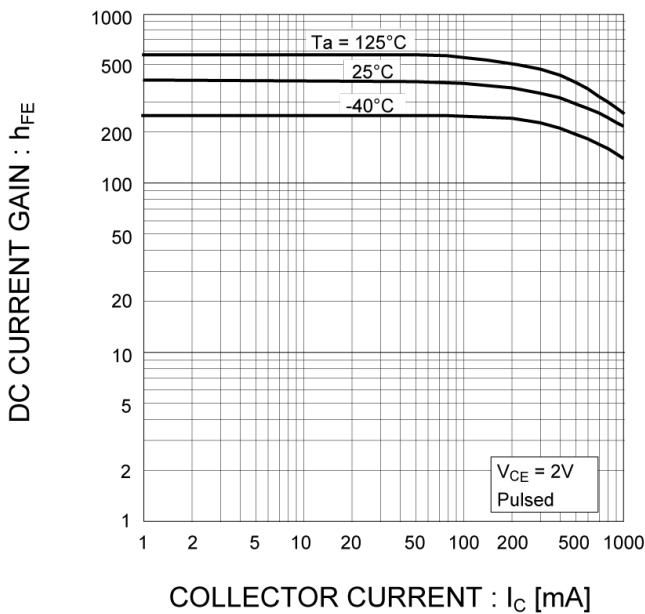
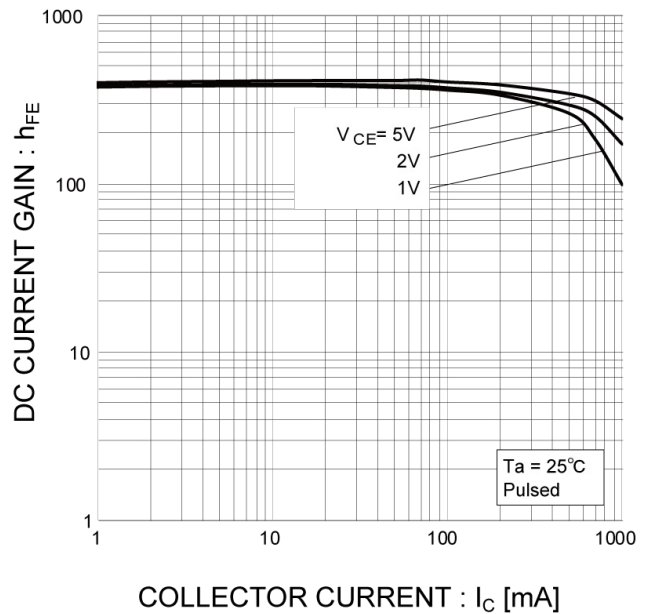


Fig.4 DC current gain vs. collector current (II)



● 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)

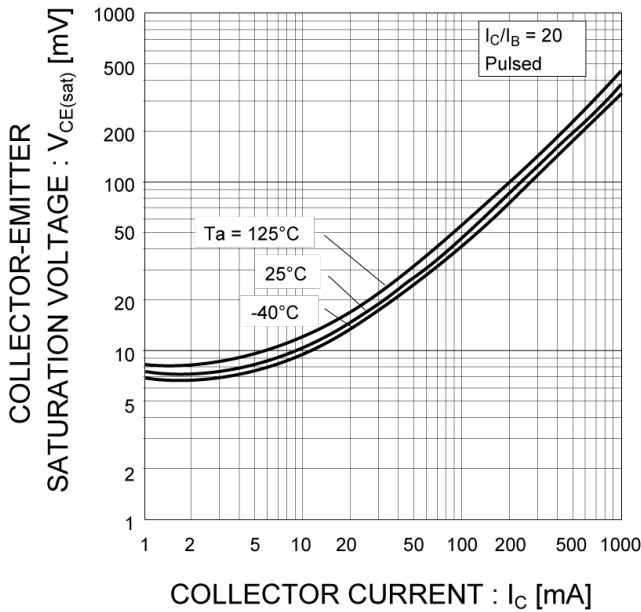


Fig.6 Collector-emitter saturation voltage vs. collector current (II)

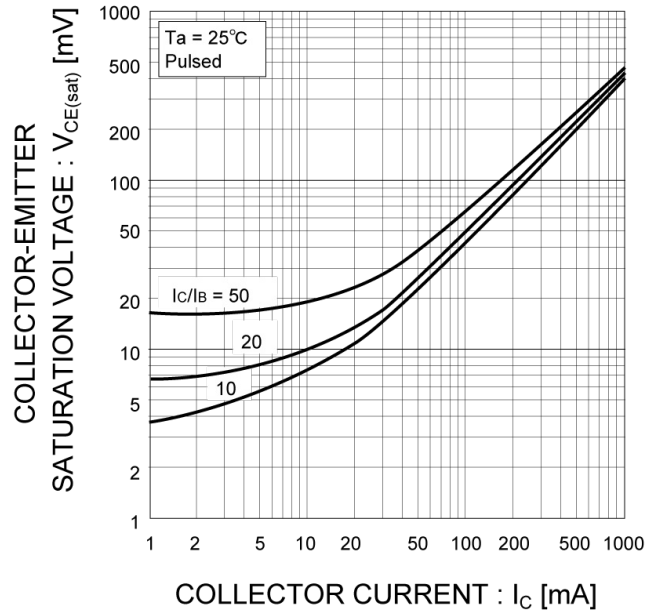


Fig.7 Base-emitter saturation voltage vs. collector current

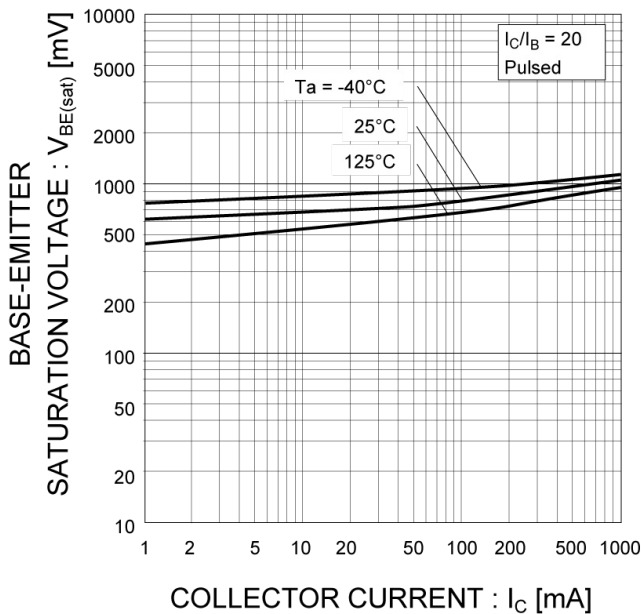
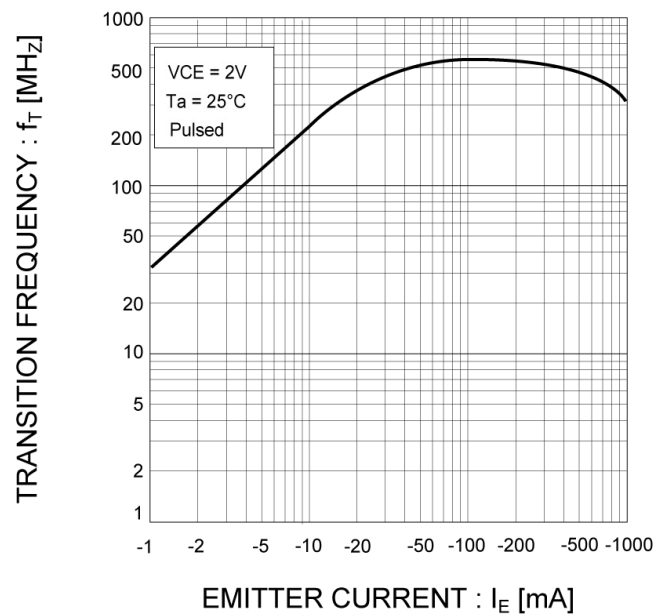


Fig.8 Gain bandwidth product vs. emitter current



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

<For Tr1 and Tr2 in common>

Fig.9 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

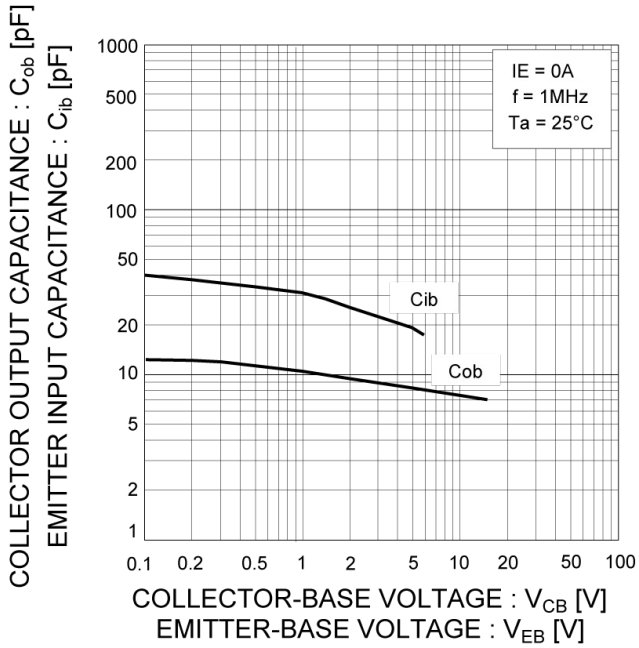


Fig.10 Safe Operating Area

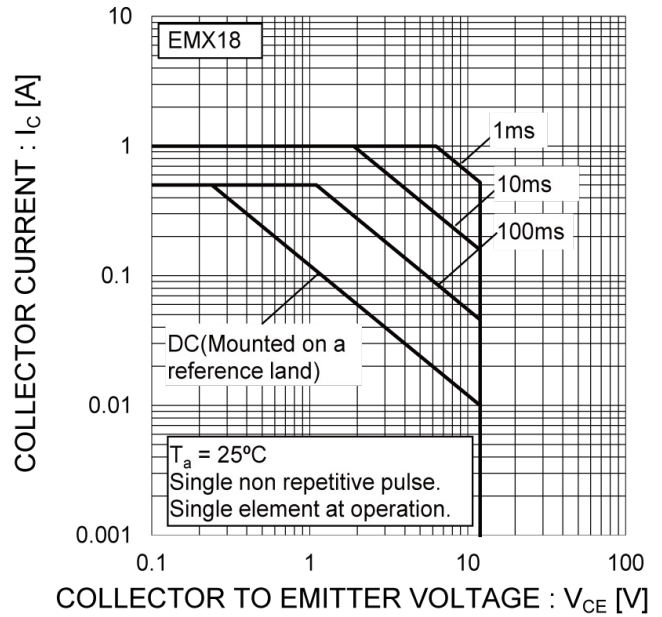
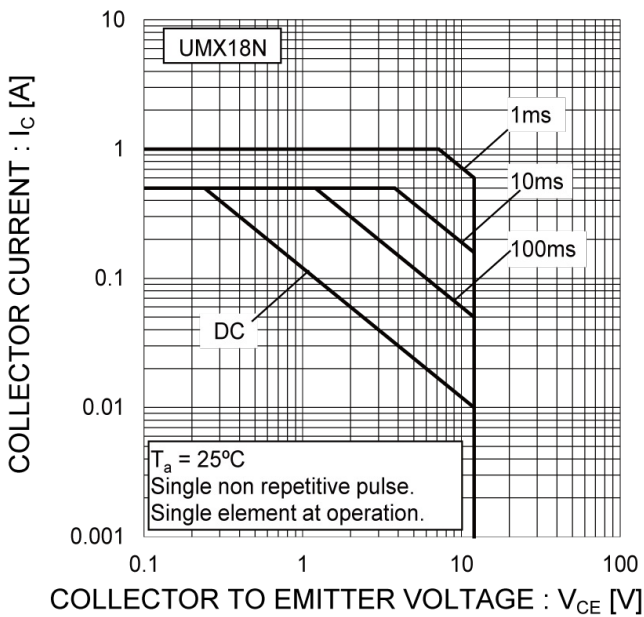
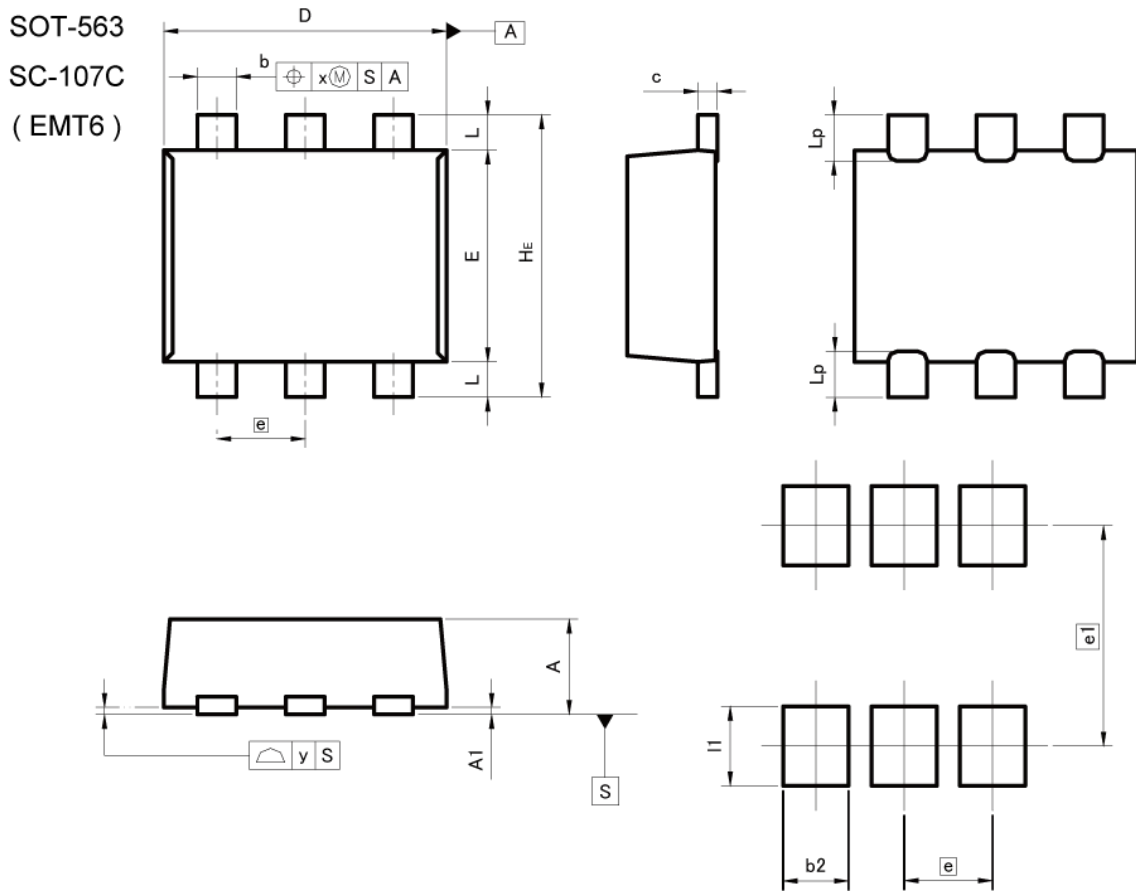


Fig.11 Safe Operating Area



●Dimensions



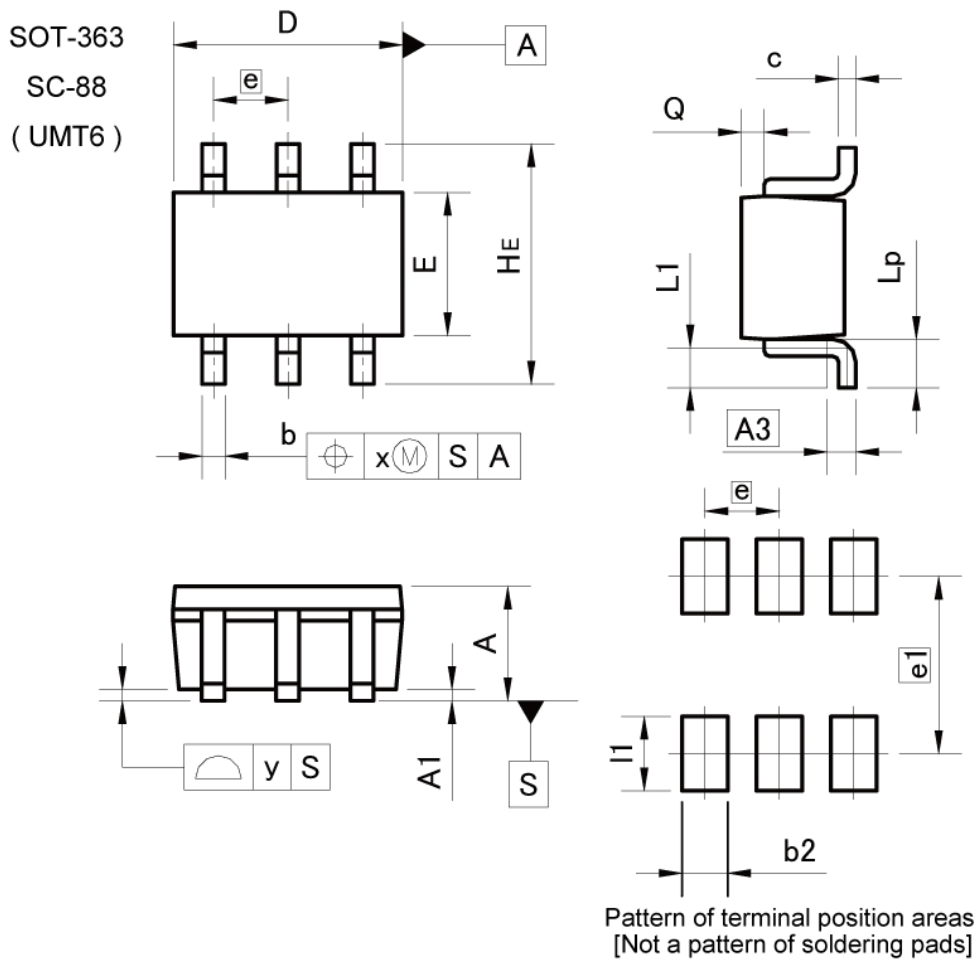
Pattern of terminal position areas
[Not a pattern of soldering pads]

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	
I1	-	0.45	-	0.018

Dimension in mm/inches

●Dimensions



DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.80	1.00	0.031	0.039
A1	0.00	0.10	0.000	0.004
A3	0.25		0.010	
b	0.15	0.30	0.006	0.012
c	0.10	0.20	0.004	0.008
D	1.90	2.10	0.075	0.083
E	1.15	1.35	0.045	0.053
e	0.65		0.026	
HE	2.00	2.20	0.079	0.087
L1	0.20	0.50	0.008	0.020
Lp	0.25	0.55	0.010	0.022
Q	0.10	0.30	0.004	0.012
x	-	0.10	-	0.004
y	-	0.10	-	0.004

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
b2	-	0.40	-	0.016
e1	1.55		0.061	
l1	-	0.65	-	0.026

Dimension in mm/inches

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