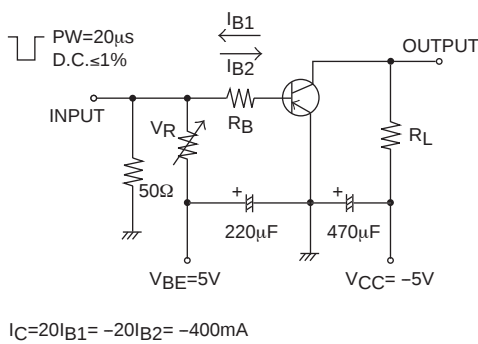


12A02MH

Electrical Characteristics at Ta=25°C

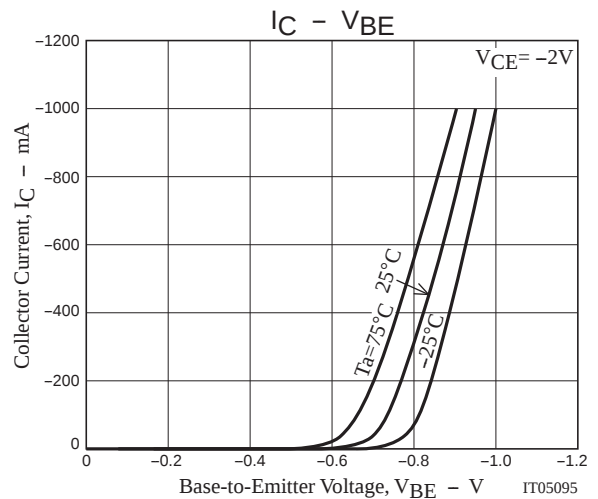
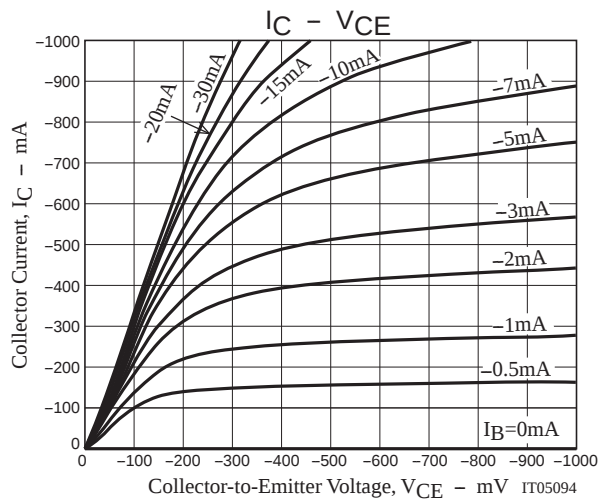
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	VCE= -12V, IE=0A			-100	nA
Emitter Cutoff Current	IEBO	VEB= -4V, IC=0A			-100	nA
DC Current Gain	hFE	VCE= -2V, IC= -10mA	300		700	
Gain-Bandwidth Product	fT	VCE= -2V, IC= -50mA		450		MHz
Output Capacitance	Cob	VCE= -10V, f=1MHz		6		pF
Collector-to-Emitter Saturation Voltage	VCE(sat)	IC= -400mA, IB= -20mA		-120	-240	mV
Base-to-Emitter Saturation Voltage	VBE(sat)	IC= -400mA, IB= -20mA		-0.9	-1.2	V
Collector-to-Base Breakdown Voltage	V(BR)CBO	IC= -10μA, IE=0A	-15			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	IC= -1mA, RBE=∞	-12			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	IE= -10μA, IC=0A	-5			V
Turn-ON Time	ton	See specified Test Circuit.		30		ns
Storage Time	tstg			75		ns
Fall Time	tf			15		ns

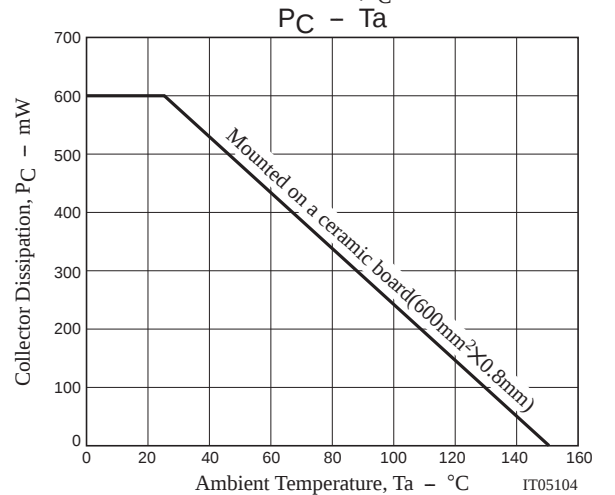
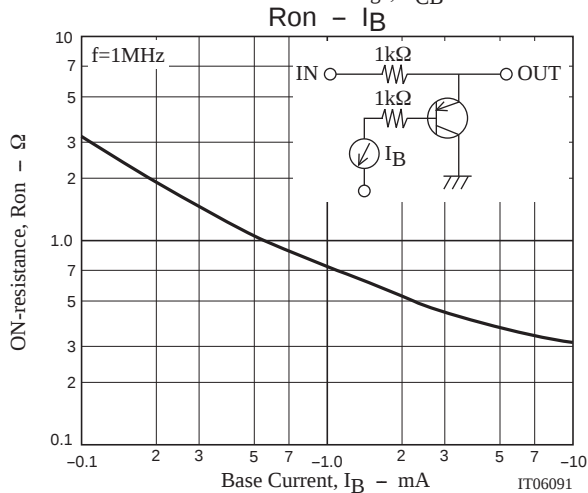
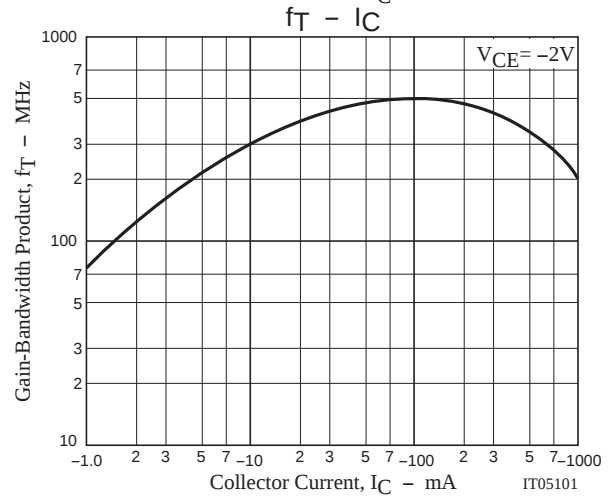
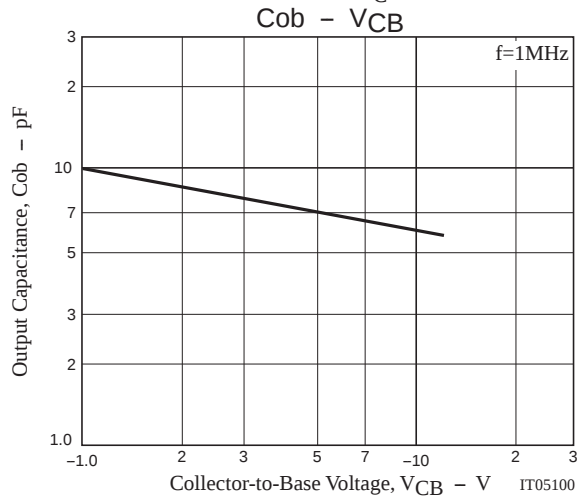
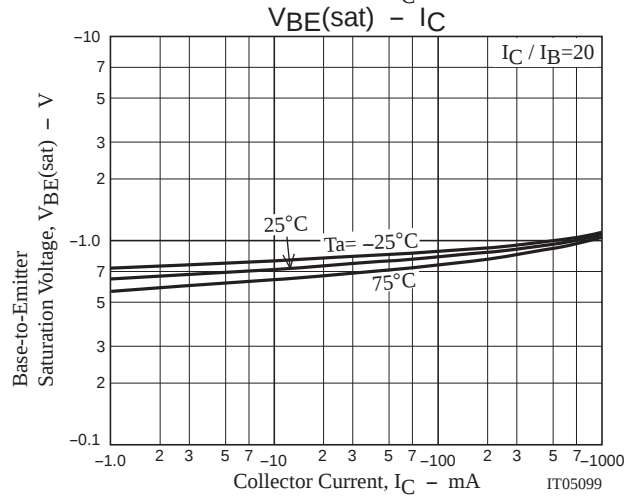
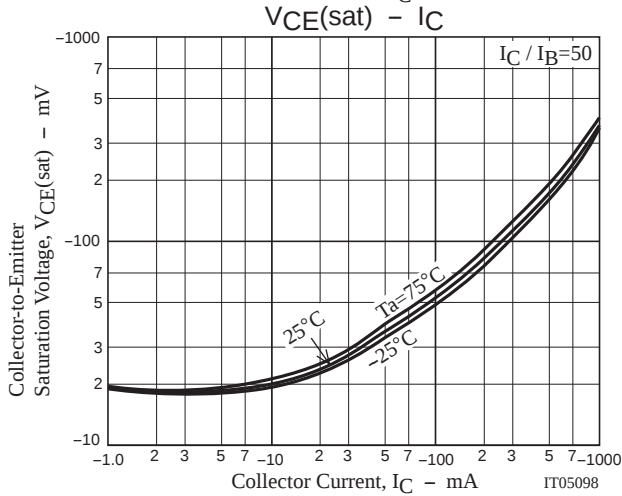
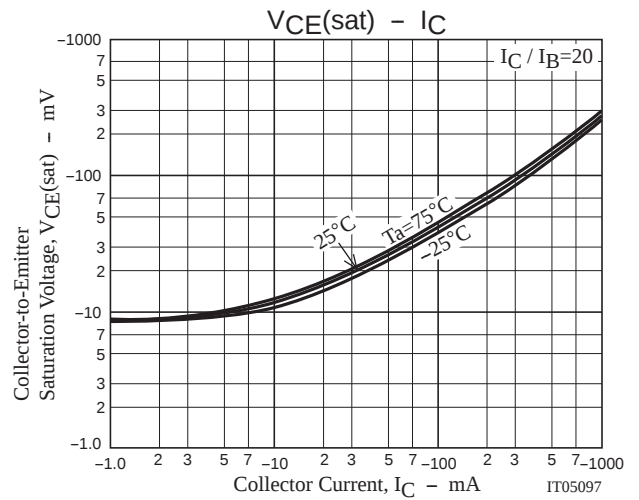
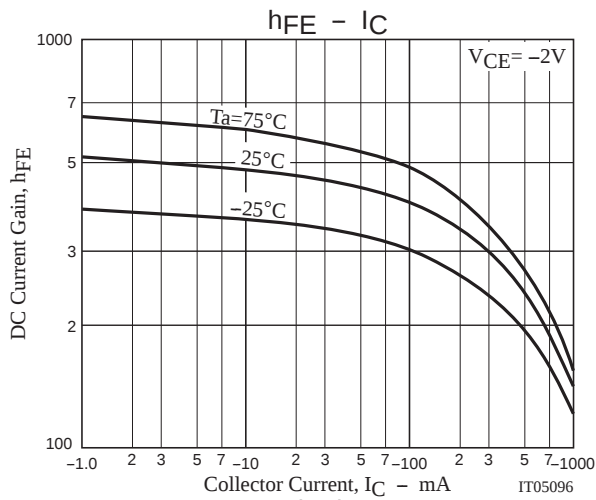
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
12A02MH-TL-E	MCPH3	3,000pcs./reel	Pb Free





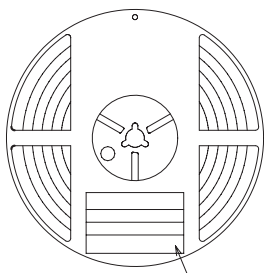
Embossed Taping Specification

12A02MH-TL-E

1. Packing Format

Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
MCPH3	MCPH3	3,000	15,000	90,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

Packing method



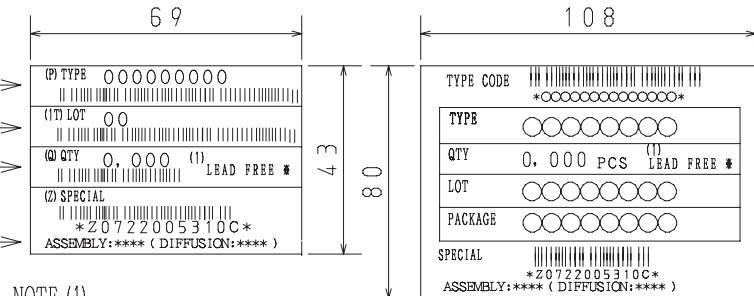
Reel label

Type No.
LOT No.
Quantity
Origin

Reel label, Inner box label
(unit:mm)

Outer box label

It is a label at the time of factory shipments.
The form of a label may change in physical
distribution process.



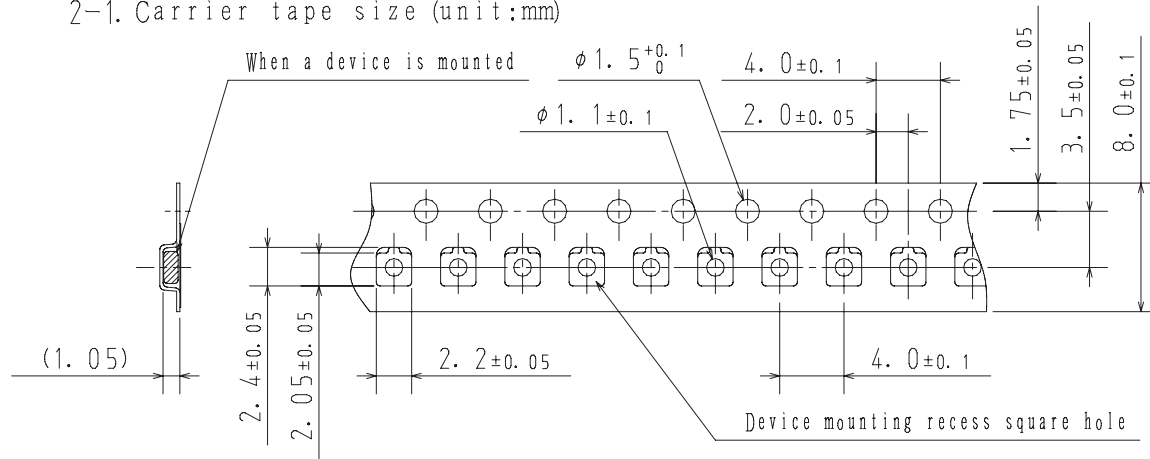
NOTE (1)

The LEAD FREE * description shows that the surface
treatment of the terminal is lead free.

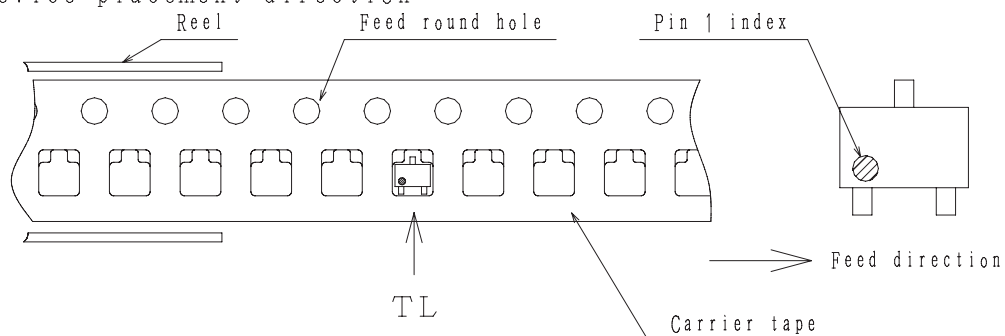
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

2-1. Carrier tape size (unit:mm)

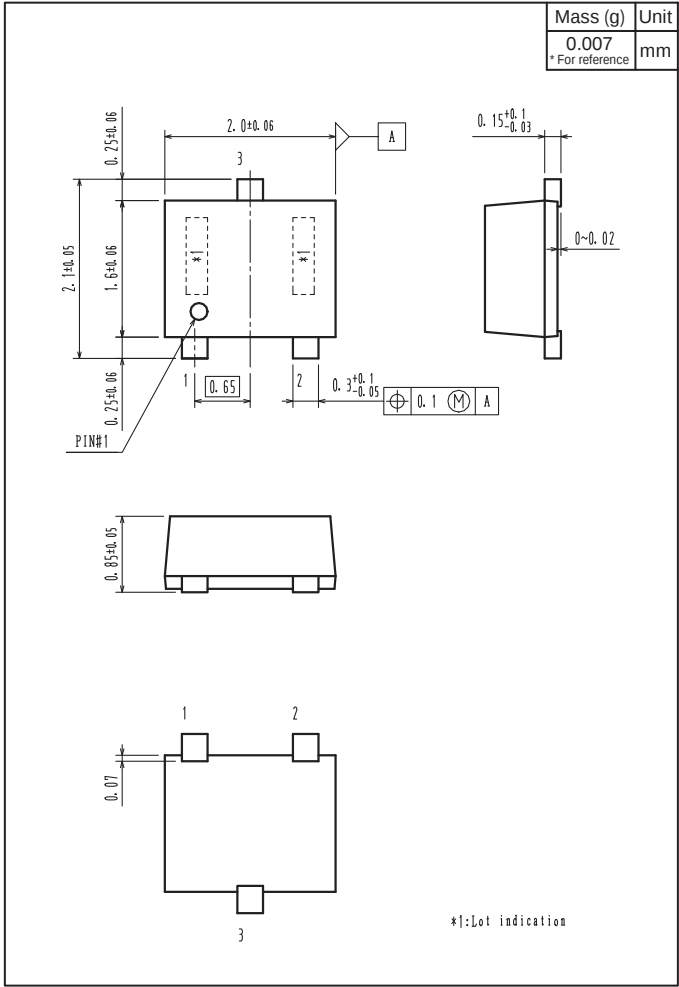


2-2. Device placement direction

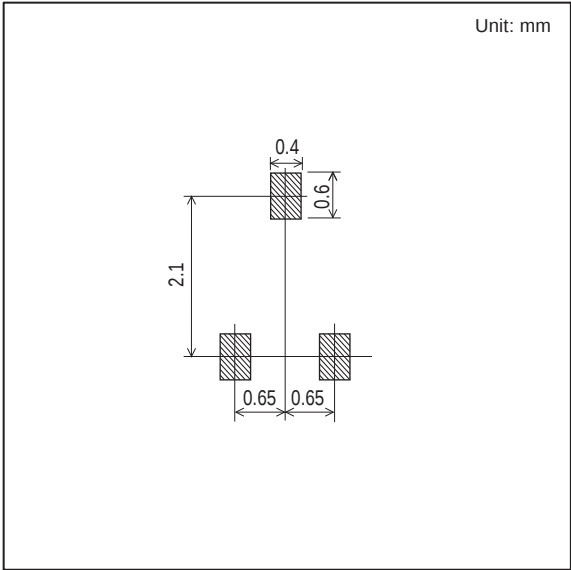


Those with pin 1 index on the feed hole side.....TL

Outline Drawing
12A02MH-TL-E



Land Pattern Example



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