



ECH8503

Bipolar Transistor -50V, -5A, Low VCE(sat) PNP Dual ECH8

ON Semiconductor®
<http://onsemi.com>

Features

- Composite type, facilitating high-density mounting
- Mounting height 0.9mm
- Halogen free compliance

Specifications

Absolute Maximum Ratings at Ta=25°C

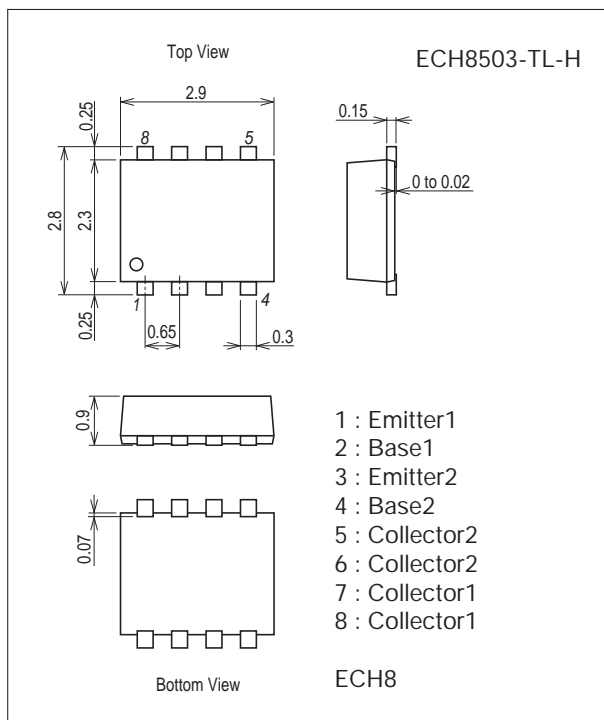
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		-50	V
Collector-to-Emitter Voltage	V _{CEO}		-50	V
Emitter-to-Base Voltage	V _{EB0}		-6	V
Collector Current	I _C		-5	A
Collector Current (Pulse)	I _{CP}		-10	A
Base Current	I _B		-1	A
Collector Dissipation	P _C	When mounted on ceramic substrate (900mm ² ×0.8mm) 1unit	1.3	W
Total Dissipation	P _T	When mounted on ceramic substrate (900mm ² ×0.8mm)	1.6	W
Junction Temperature	T _j		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Package Dimensions

unit : mm (typ)

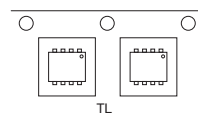
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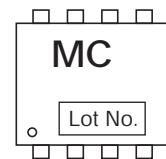
Product & Package Information

- Package : ECH8
- JEITA, JEDEC : -
- Minimum Packing Quantity : 3,000 pcs./reel

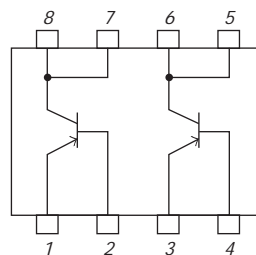
Taping Type : TL



Marking



Electrical Connection



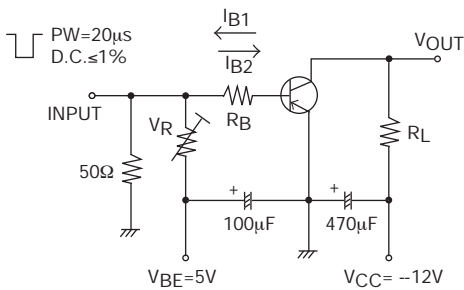
ECH8503

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB} = -50V, I_E = 0A$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -4V, I_C = 0A$			-0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = -2V, I_C = -500mA$	200		560	
Gain-Bandwidth Product	f_T	$V_{CE} = -10V, I_C = -500mA$		280		MHz
Output Capacitance	C_{ob}	$V_{CB} = -10V, f = 1MHz$		42		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)1}$	$I_C = -1A, I_B = -50mA$		-60	-100	mV
	$V_{CE(sat)2}$	$I_C = -2.5A, I_B = -125mA$		-110	-190	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -2.5A, I_B = -125mA$		-0.9	-1.1	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0A$	-50			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1mA, R_{BE} = \infty$	-50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0A$	-6			V
Turn-On Time	t_{on}	See specified Test Circuit.		30		ns
Storage Time	t_{stg}			170		ns
Fall Time	t_f			17		ns

Note) The specifications shown above are for each individual transistor.

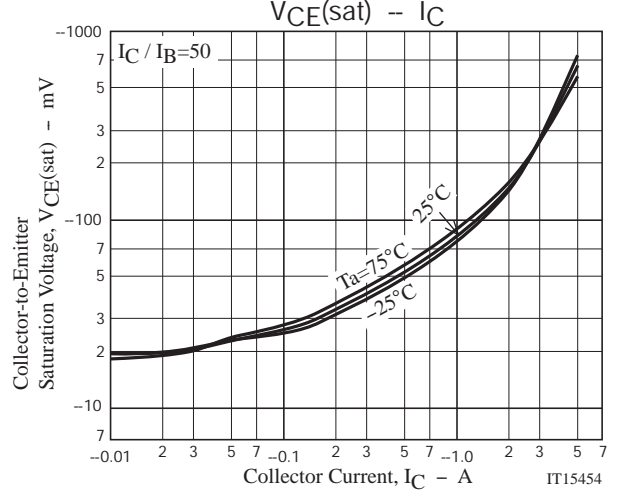
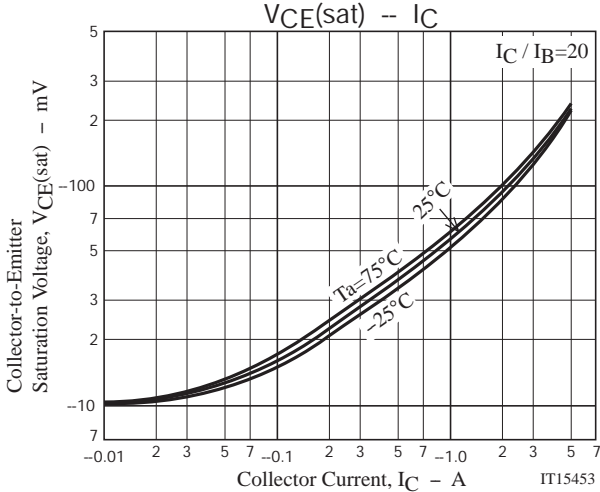
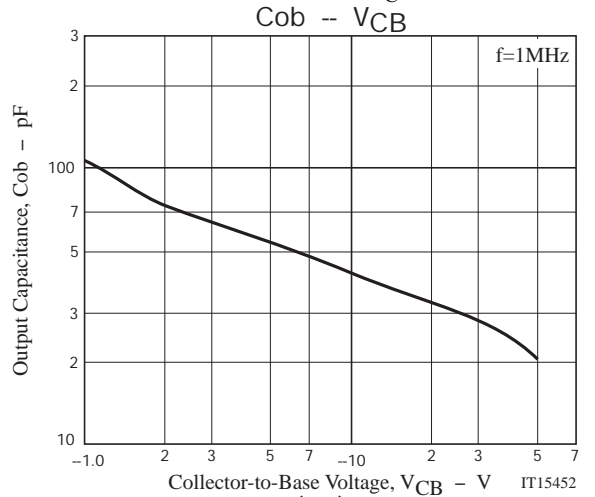
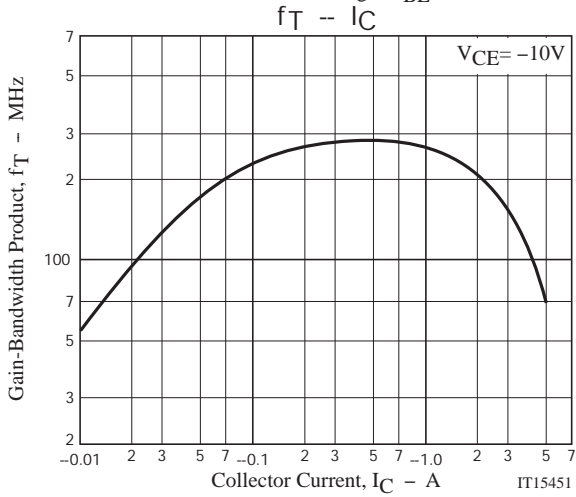
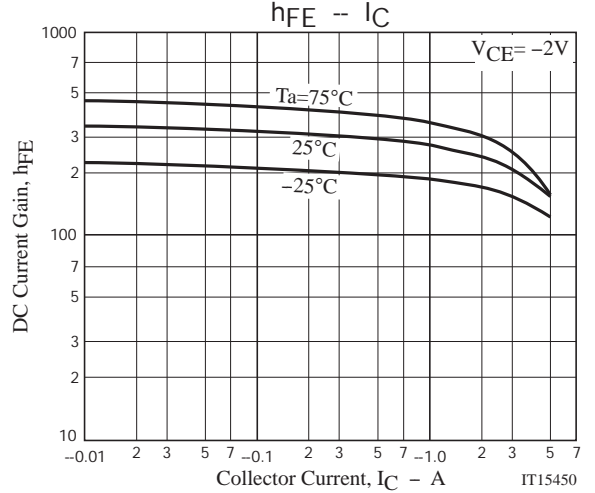
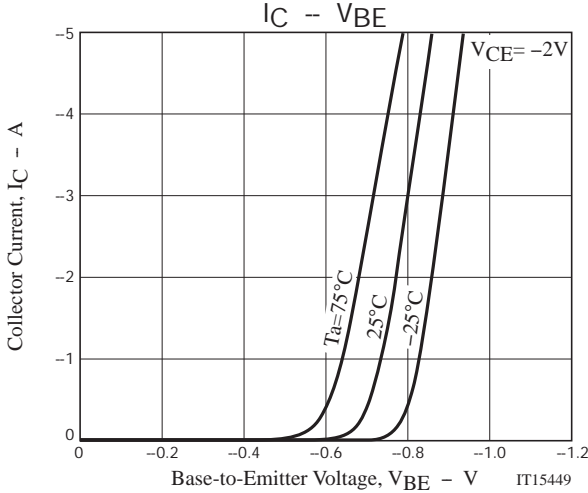
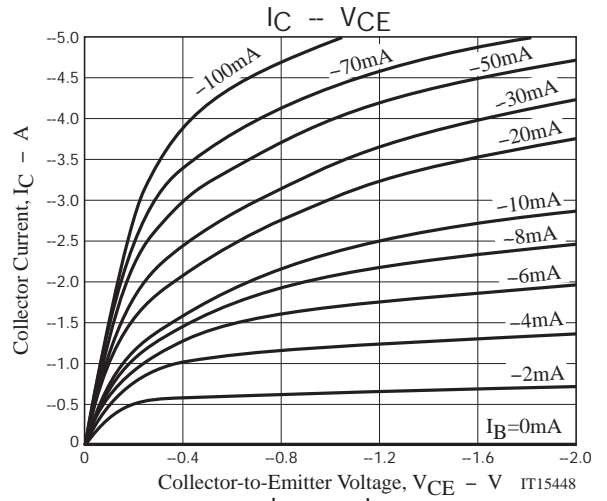
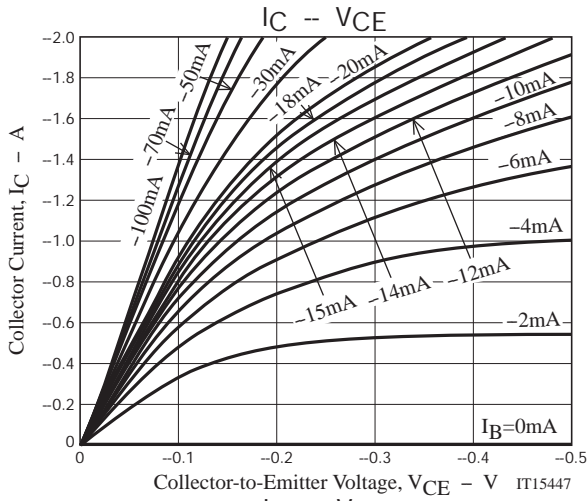
Switching Time Test Circuit

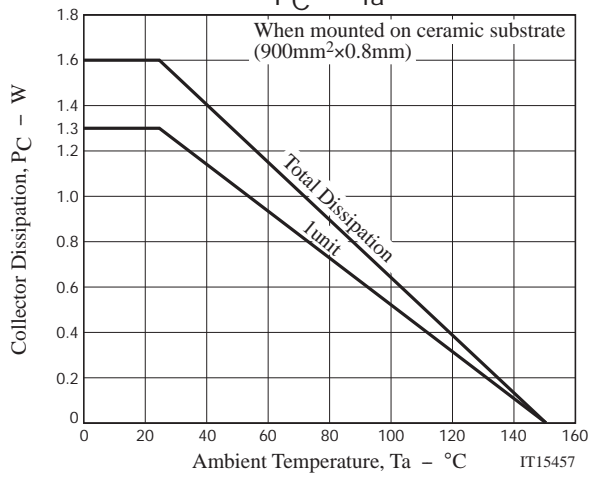
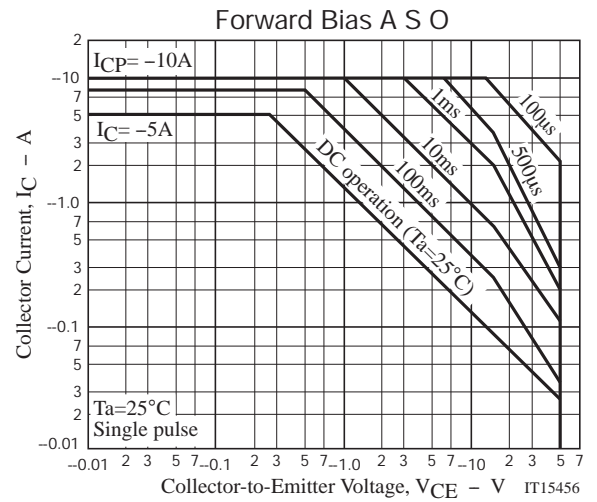
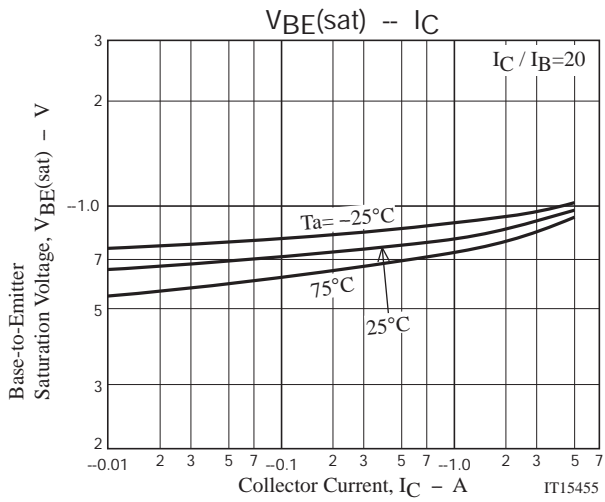


$$I_C = -20I_{B1} = 20I_{B2} = -2.5A$$

Ordering Information

Device	Package	Shipping	memo
ECH8503-TL-H	ECH8	3,000pcs./reel	Pb Free and Halogen Free





Embossed Taping Specification

ECH8503-TL-H

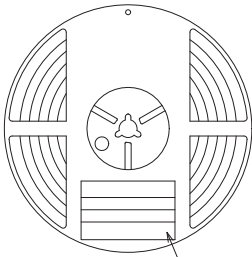
1. Packing Format

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)
ECH8	CPH6	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

Reel label, Inner box label
(unit :mm)

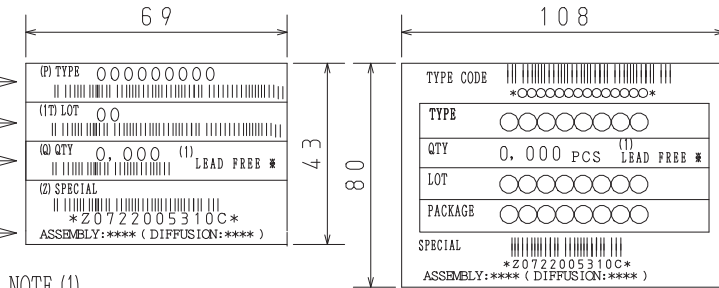
Outer box label
It is a label at the time of factory shipments.
The form of a label may change in physical distribution process.

Packing method



Reel label

Type No.
LOT No.
Quantity
Origin



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

ECH8503

Outline Drawing ECH8503-TL-H



Land Pattern Example



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