

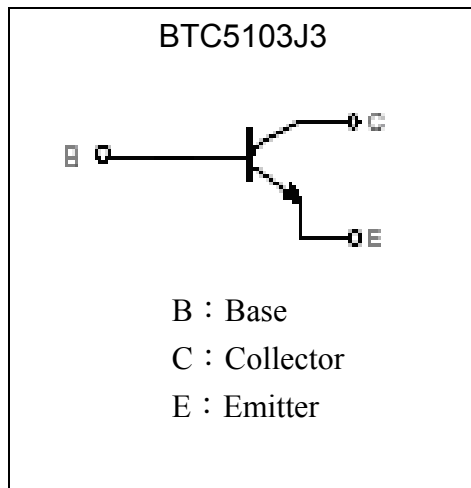
## High Speed Switching Transistor

# BTC5103J3

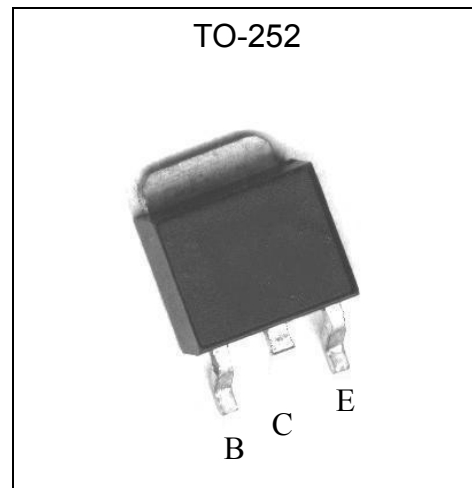
### Features

- Low  $V_{CE(sat)}$ ,  $V_{CE(sat)}=0.15$  V (typical), at  $I_C / I_B = 3A / 0.15A$
- High Switching Speed
- Wide SOA
- Complementary to BTA1952J3

### Symbol



### Outline



### Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-Base Voltage	VCBO	100	V
Collector-Emitter Voltage	VCEO	60	V
Emitter-Base Voltage	VEBO	5	V
Collector Current	IC(DC)	5	A
	IC(Pulse)	10 *1	
Power Dissipation	Pd(TA=25°C)	1	W
	Pd(TC=25°C)	10 *2	
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55~+150	°C

Note : \*1. Single Pulse Pw=100ms

\*2. Printed circuit board, 1.7mm thick, collector copper plating 10mm\*10mm or larger

**Characteristics (Ta=25°C)**

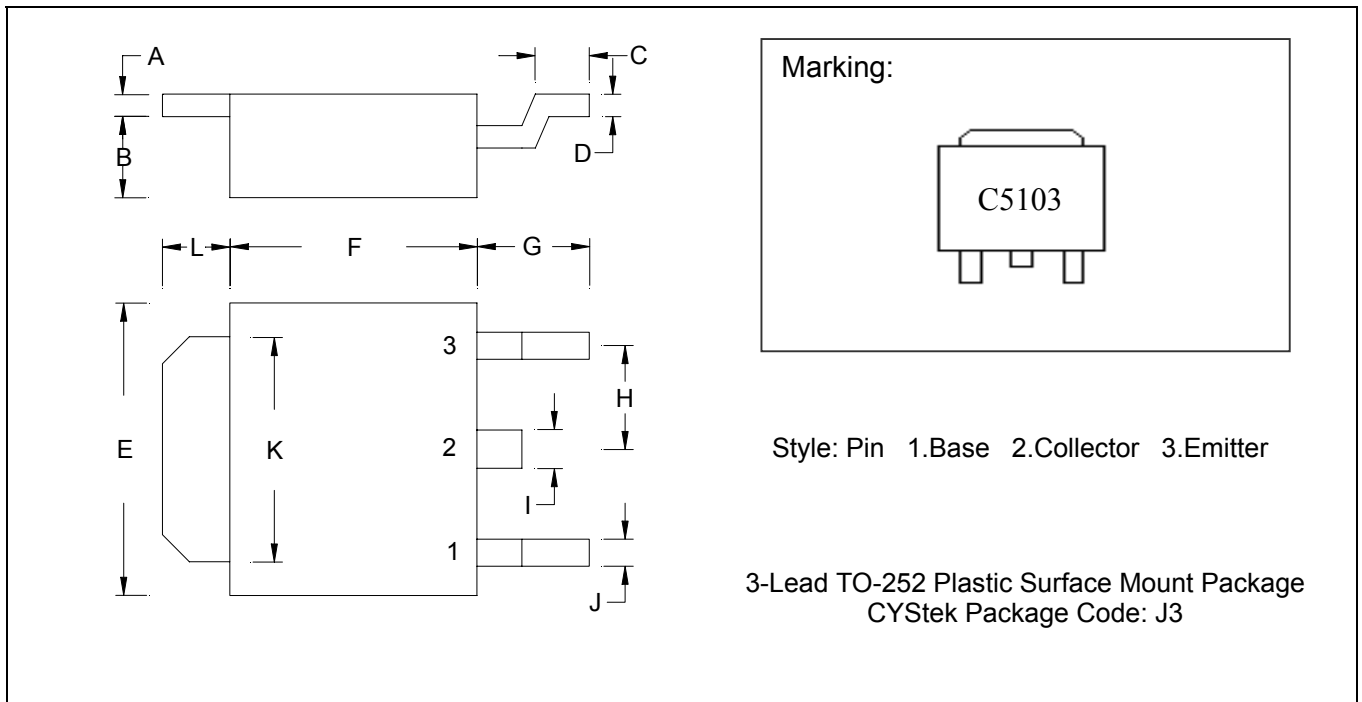
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCBO	100	-	-	V	IC=50μA, IE=0
BVCEO	60	-	-	V	IC=1mA, IB=0
BVEBO	5	-	-	V	IE=50μA, IC=0
ICBO	-	-	10	μA	VCB=100V, IE=0
IEBO	-	-	10	μA	VEB=5V, IC=0
*VCE(sat) 1	-	0.15	0.3	V	IC=3A, IB=0.15A
*VCE(sat) 2	-	-	0.5	V	IC=4A, IB=0.2A
*VBE(sat) 1	-	-	1.2	V	IC=3A, IB=0.15A
*VBE(sat) 1	-	-	1.5	V	IC=4A, IB=0.2A
*hFE1	52	-	-	-	VCE=2V, IC=20mA
*hFE2	82	-	270	-	VCE=2V, IC=1A
fT	-	120	-	MHz	VCE=10V, IC=0.5A, f=30MHz
Cob	-	80	-	pF	VCB=10V, f=1MHz

\*Pulse Test : Pulse Width ≤380us, Duty Cycle ≤2%

**Classification Of hFE2**

Rank	P	Q
Range	82~180	120~270

## TO-252 Dimension



\*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.0177	0.0217	0.45	0.55	G	0.0866	0.1102	2.20	2.80
B	0.0650	0.0768	1.65	1.95	H	-	*0.0906	-	*2.30
C	0.0354	0.0591	0.90	1.50	I	-	0.0354	-	0.90
D	0.0177	0.0236	0.45	0.60	J	-	0.0315	-	0.80
E	0.2520	0.2677	6.40	6.80	K	0.2047	0.2165	5.20	5.50
F	0.2125	0.2283	5.40	5.80	L	0.0551	0.0630	1.40	1.60

Notes: 1.Controlling dimension: millimeters.  
 2.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.  
 3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

**Material:**

- Lead: 42 Alloy; solder plating
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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