



# 2SC3332

## Bipolar Transistor 160V, 0.7A, Low VCE(sat) NPN Single NP

ON Semiconductor®

<http://onsemi.com>

### Features

- High breakdown voltage
- Excellent hFE linearity
- Wide SOA and highly resistant to breakdown
- Adoption of MBIT process

### Specifications

Absolute Maximum Ratings at Ta=25°C

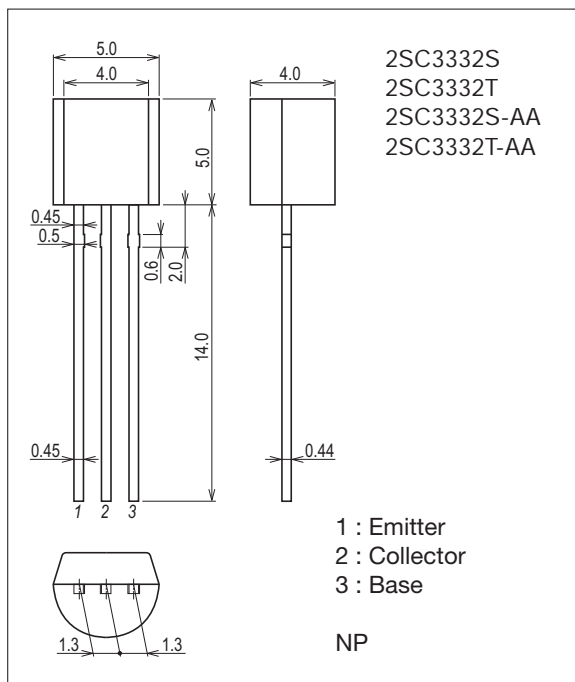
Parameter	Symbol	Conditions	Ratings	Unit
Collector to Base Voltage	V <sub>CB0</sub>		180	V
Collector to Emitter Voltage	V <sub>CE0</sub>		160	V
Emitter to Base Voltage	V <sub>EB0</sub>		6	V
Collector Current	I <sub>C</sub>		0.7	A
Collector Current (Pulse)	I <sub>CP</sub>		1.5	A
Collector Dissipation	P <sub>C</sub>		700	mW
Junction Temperature	T <sub>j</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-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)

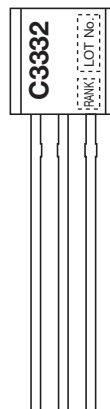
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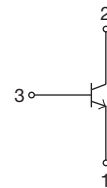
### Product & Package Information

- Package : NP
- JEITA, JEDEC : SC-34A, TO-92, TO-226AA, SOT-54
- Minimum Packing Quantity : 1,500 pcs./box, 500pcs./bag

### Marking



### Electrical Connection



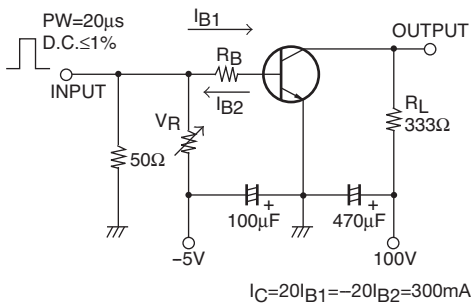
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V <sub>CB</sub> =120V, I <sub>E</sub> =0A			0.1	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =4V, I <sub>C</sub> =0A			0.1	μA
DC Current Gain	h <sub>FE1</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =100mA	140*		400*	
	h <sub>FE2</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =10mA	80			
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =50mA		120		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, f=1MHz		8		pF
Collector to Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =250mA, I <sub>B</sub> =25mA		0.12	0.4	V
Base to Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =250mA, I <sub>B</sub> =25mA		0.85	1.2	V
Collector to Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =10μA, I <sub>E</sub> =0A	180			V
Collector to Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =1mA, R <sub>BE</sub> =∞	160			V
Emitter to Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =10μA, I <sub>C</sub> =0A	6			V
Turn-ON Time	t <sub>on</sub>	See specified Test Circuit.		50		ns
Storage Time	t <sub>stg</sub>			1000		ns
Fall Time	t <sub>f</sub>			60		ns

\* : The 2SC3332 is classified by 100mA h<sub>FE</sub> as follows :

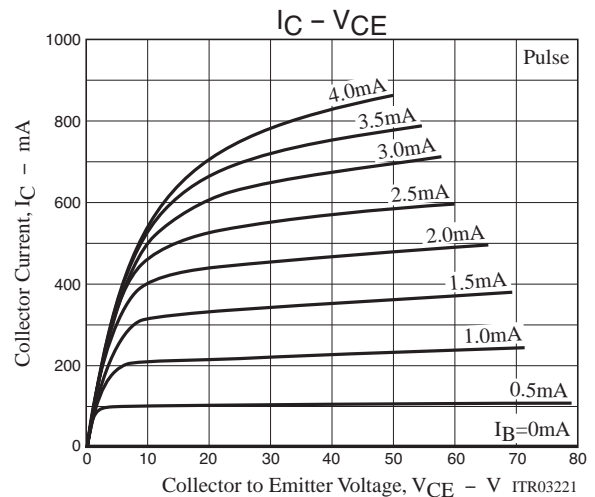
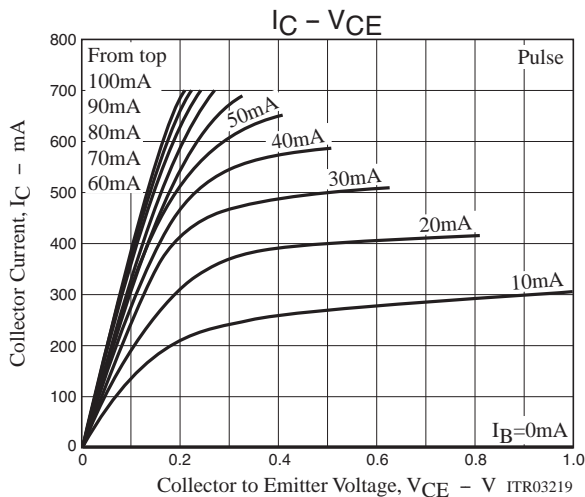
Rank	S	T
h <sub>FE</sub>	140 to 280	200 to 400

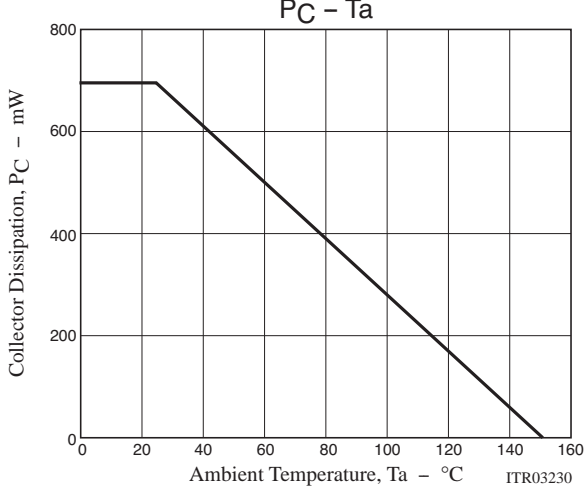
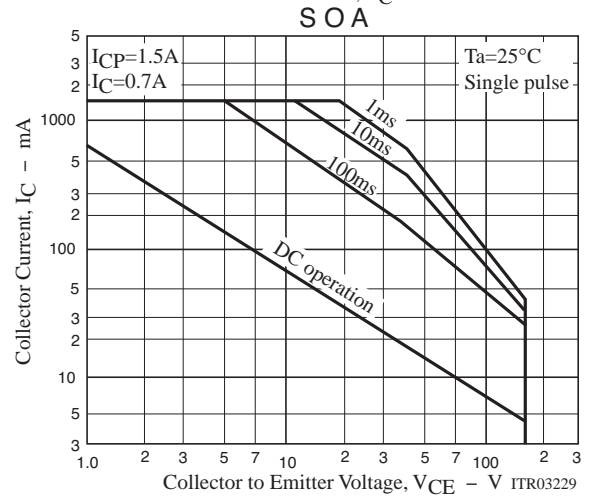
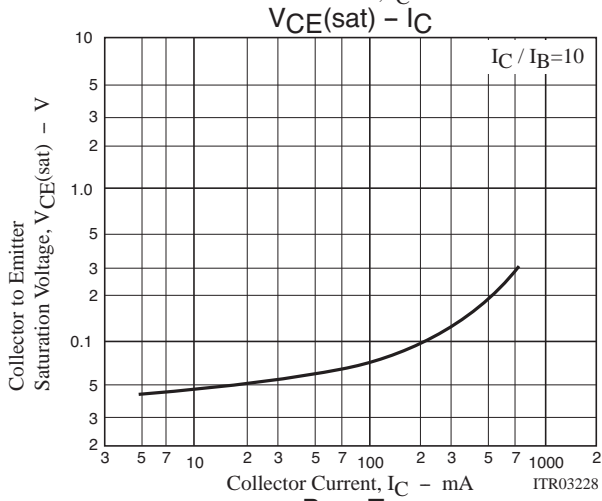
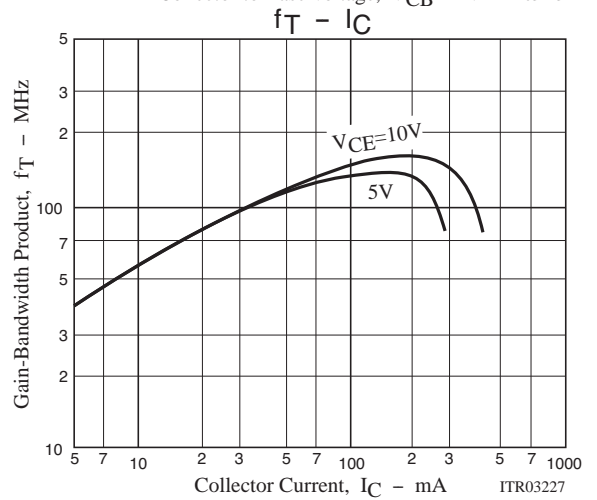
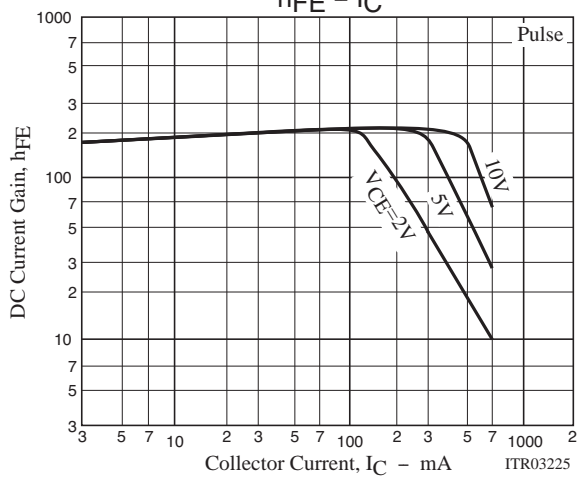
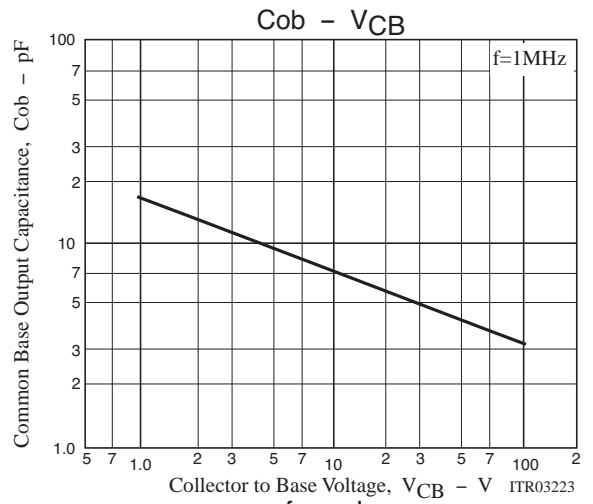
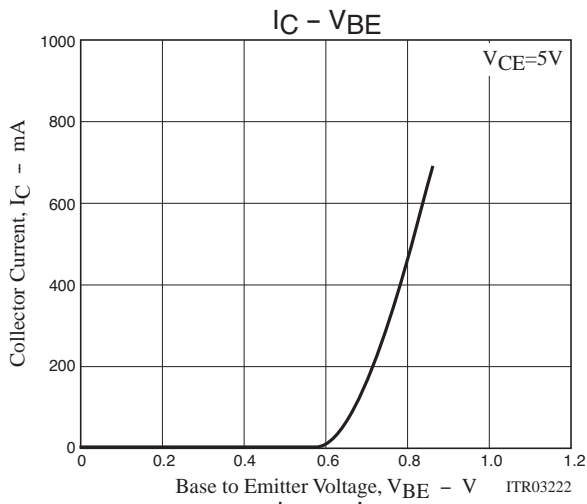
Switching Time Test Circuit



Ordering Information

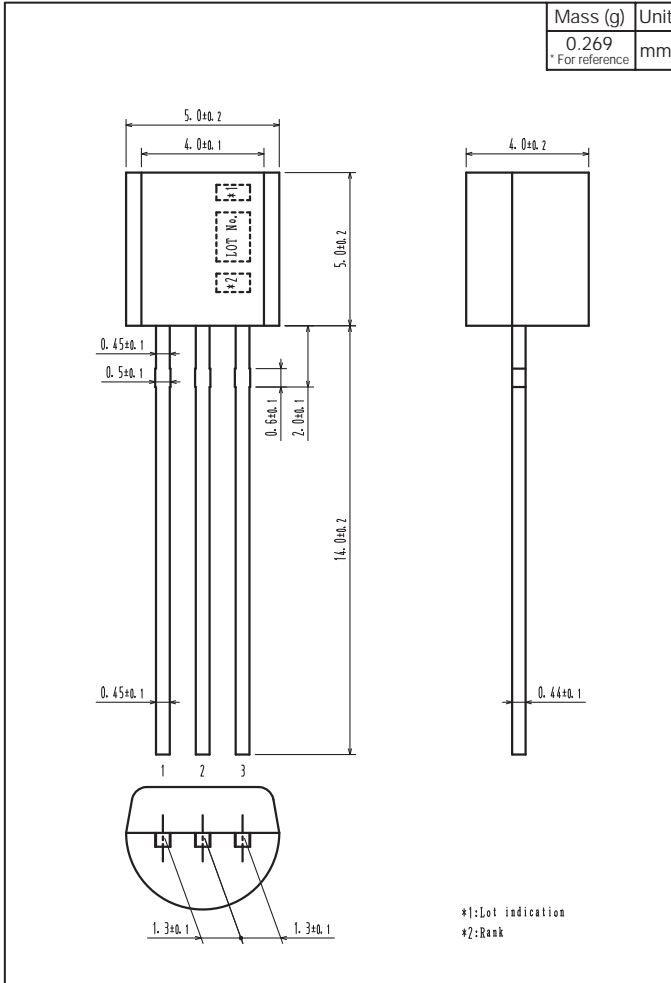
Device	Package	Shipping	memo
2SC3332S	NP	500pcs./bag	Pb Free
2SC3332T	NP	500pcs./bag	
2SC3332S-AA	NP	1,500pcs./box	
2SC3332T-AA	NP	1,500pcs./box	





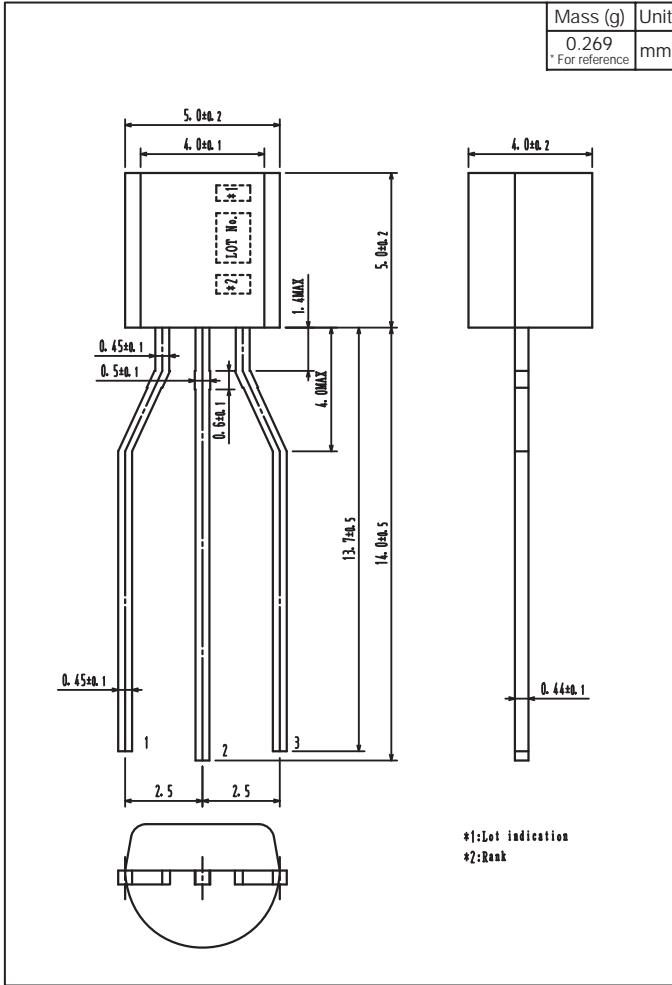
Outline Drawing

2SC3332S, 2SC3332T



Outline Drawing

2SC3332S-AA, 2SC3332T-AA



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