



ON Semiconductor®

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2SC3332

Bipolar Transistor 160V, 0.7A, Low $V_{CE(sat)}$ NPN Single NP

Features

- High breakdown voltage
- Excellent h_{FE} linearity
- Wide SOA and highly resistant to breakdown
- Adoption of MBIT process

Specifications

Absolute Maximum Ratings at $T_a=25^{\circ}\text{C}$

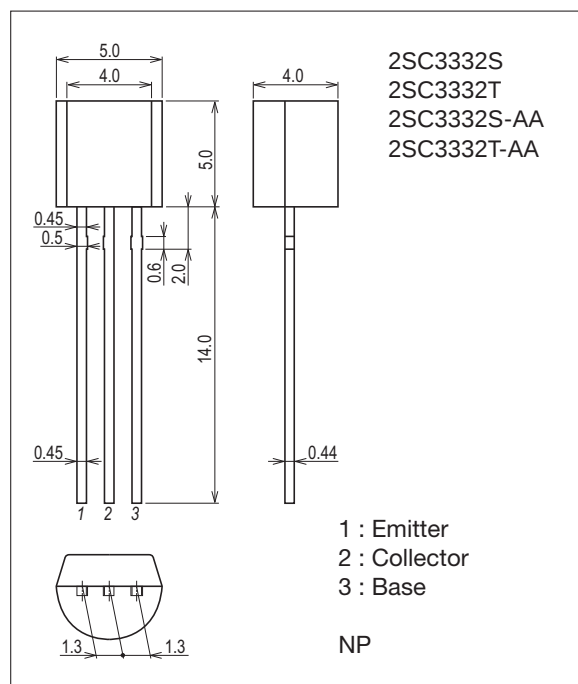
Parameter	Symbol	Conditions	Ratings	Unit
Collector to Base Voltage	V_{CBO}		180	V
Collector to Emitter Voltage	V_{CEO}		160	V
Emitter to Base Voltage	V_{EBO}		6	V
Collector Current	I_C		0.7	A
Collector Current (Pulse)	I_{CP}		1.5	A
Collector Dissipation	P_C		700	mW
Junction Temperature	T_j		150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^{\circ}\text{C}$

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)

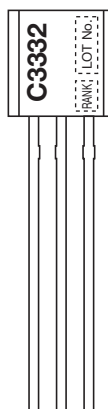
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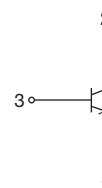
Product & Package Information

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

Marking



Electrical Connection



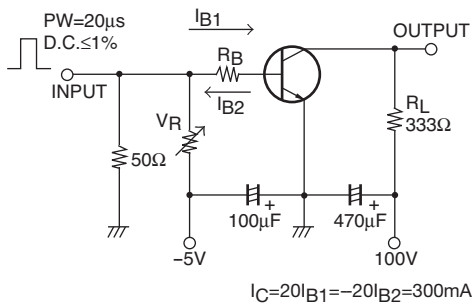
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=120V, I_E=0A$			0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=4V, I_C=0A$			0.1	μA
DC Current Gain	h_{FE1}	$V_{CE}=5V, I_C=100mA$	140*		400*	
	h_{FE2}	$V_{CE}=5V, I_C=10mA$	80			
Gain-Bandwidth Product	f_T	$V_{CE}=10V, I_C=50mA$		120		MHz
Output Capacitance	C_{ob}	$V_{CB}=10V, f=1MHz$		8		pF
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=250mA, I_B=25mA$		0.12	0.4	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=250mA, I_B=25mA$		0.85	1.2	V
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0A$	180			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	160			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.		50		ns
Storage Time	t_{stg}			1000		ns
Fall Time	t_f			60		ns

* : The 2SC3332 is classified by 100mA h_{FE} as follows :

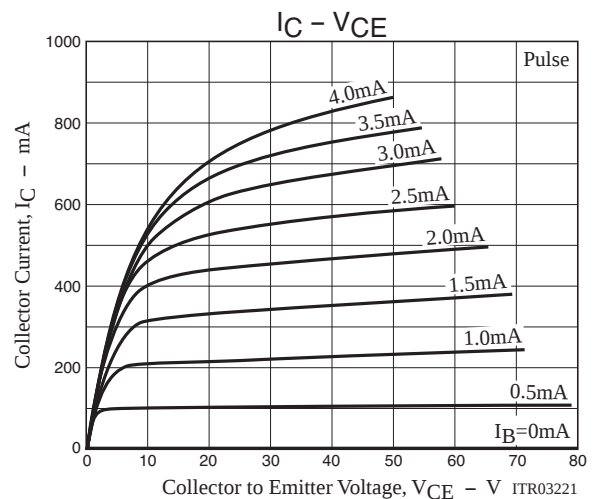
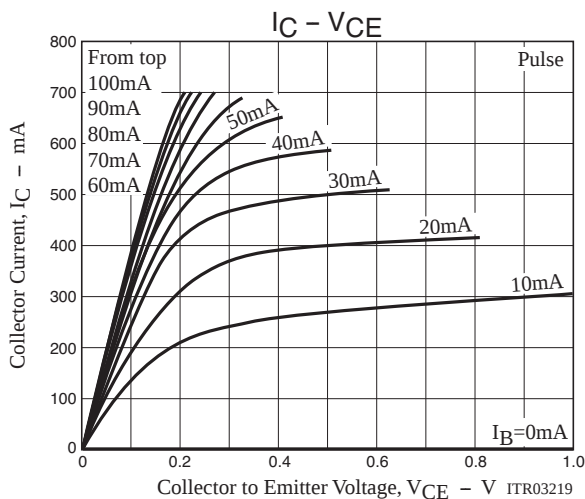
Rank	S	T
h_{FE}	140 to 280	200 to 400

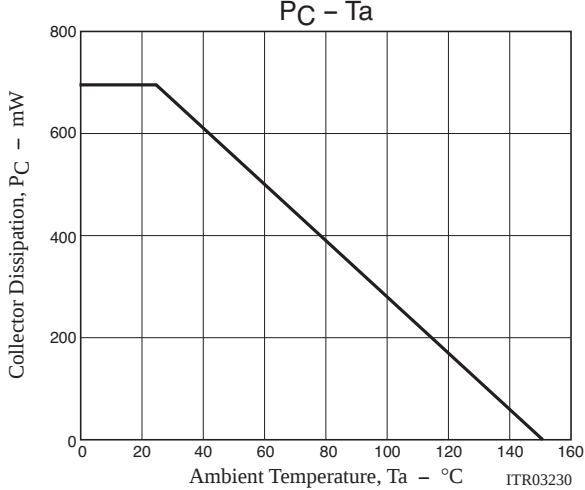
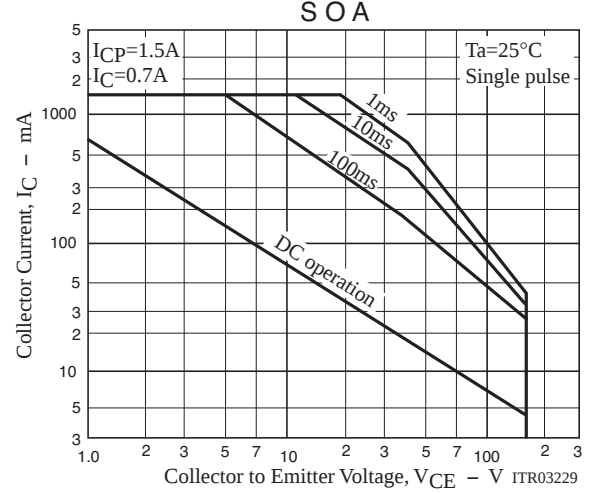
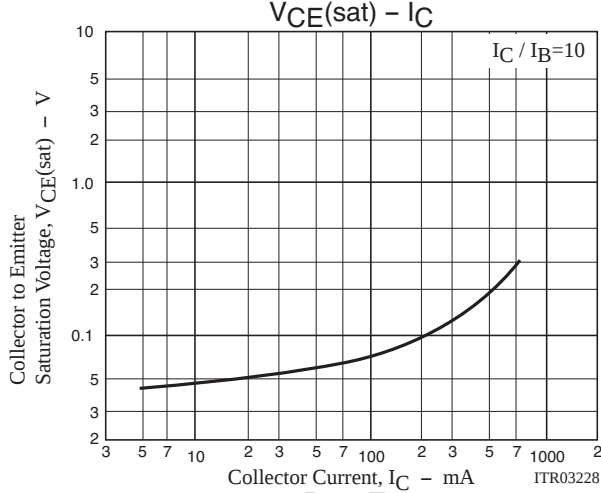
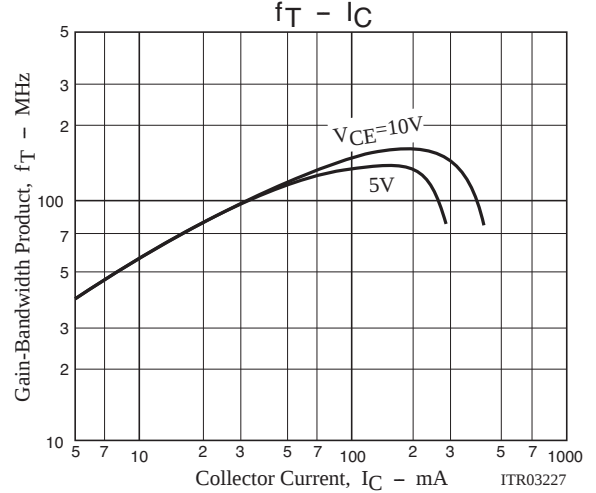
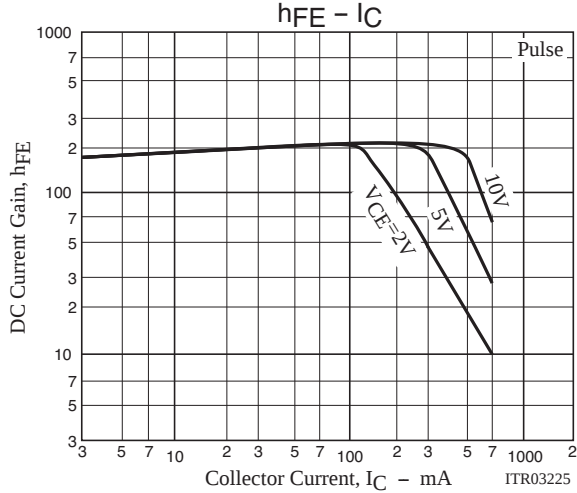
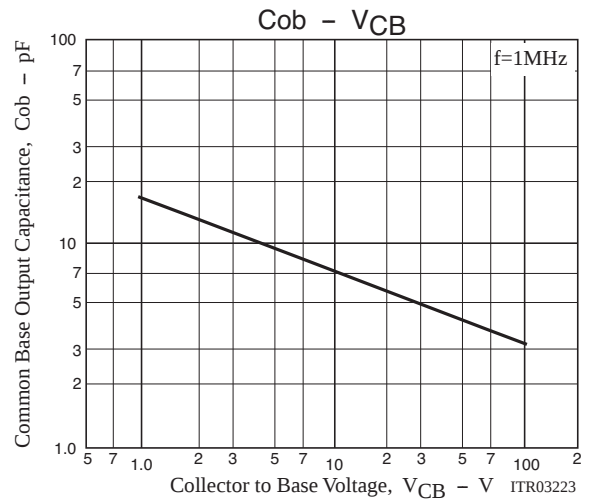
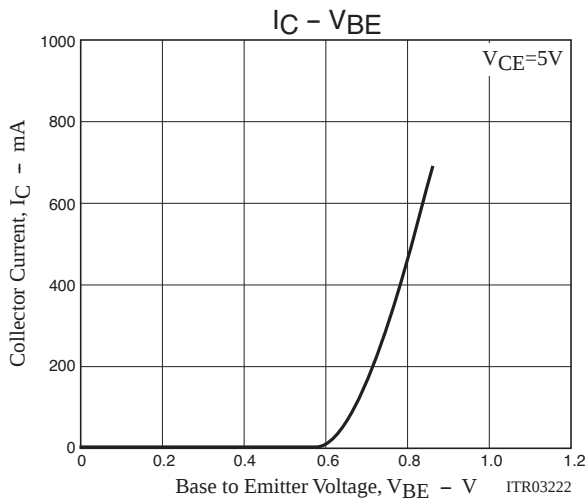
Switching Time Test Circuit



Ordering Information

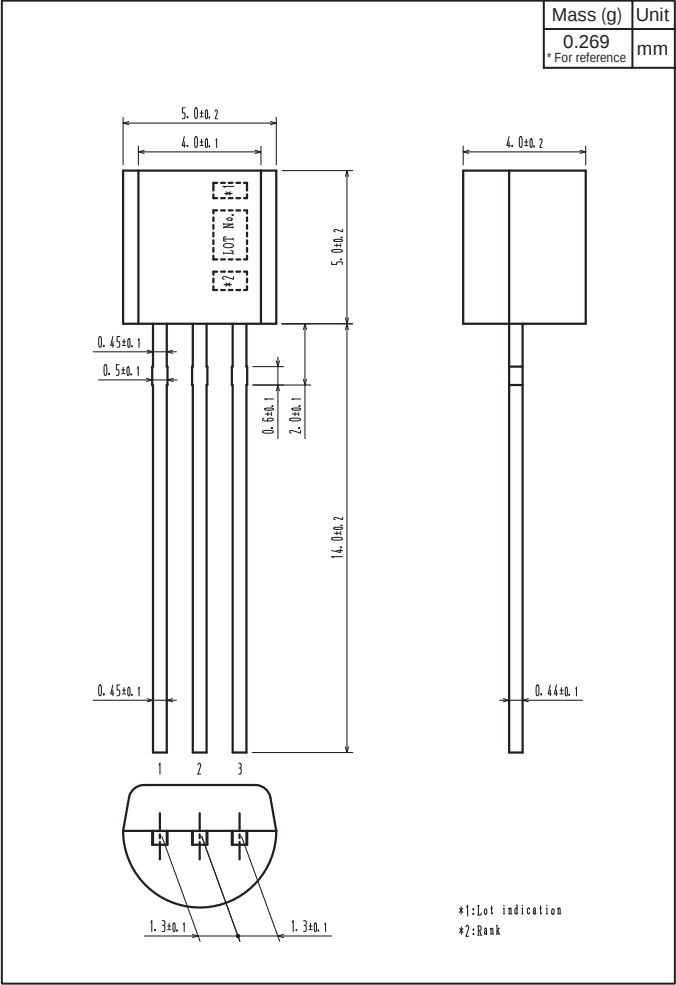
Device	Package	Shipping	memo
2SC3332S	NP	500pcs./bag	Pb Free
2SC3332T	NP	500pcs./bag	
2SC3332S-AA	NP	1,500pcs./box	
2SC3332T-AA	NP	1,500pcs./box	





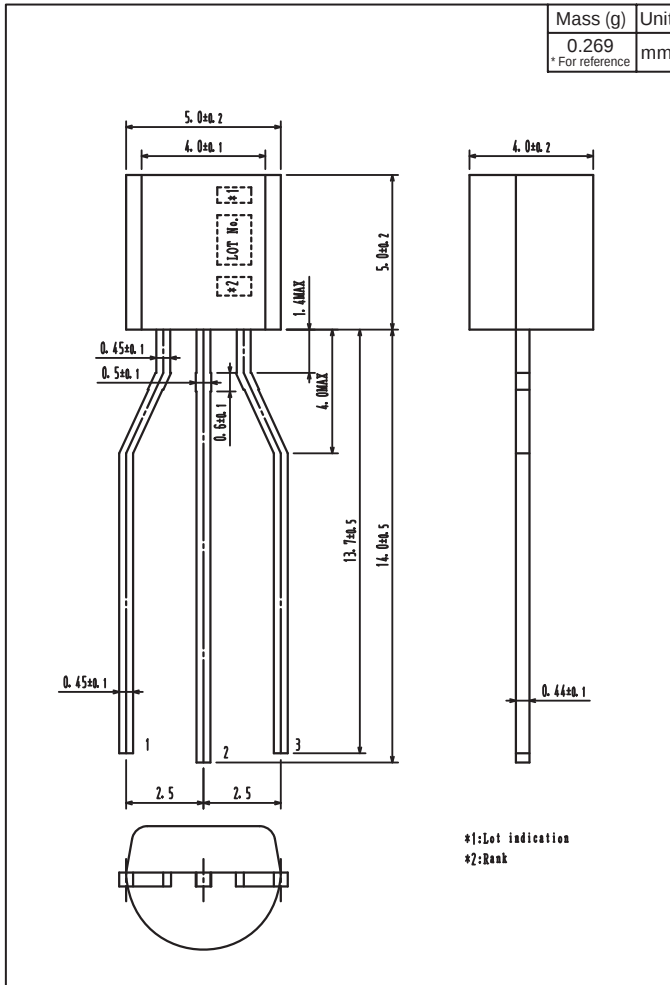
Outline Drawing

2SC3332S, 2SC3332T



Outline Drawing

2SC3332S-AA, 2SC3332T-AA



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