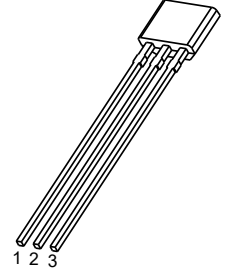
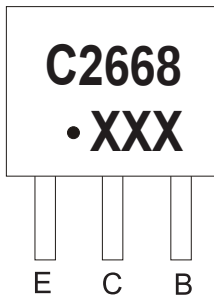


**TO-92S Plastic-Encapsulate Transistors****2SC2668** TRANSISTOR (NPN)**FEATURES**

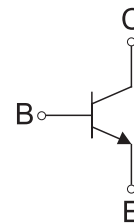
- Small Reverse Transfer Capacitance
- Low Noise Figure

TO-92S

1. EMITTER
2. COLLECTOR
3. BASE

**MARKING**

C2668=Device code
Solid dot= Greenmdding compound device,
if none, the normal device
XXX=Code

Equivalent Circuit**ORDERING INFORMATION**

Part Number	Package	Packing Method	Pack Quantity
2SC2668	TO-92S	Bulk	1000pcs/Bag
2SC2668-TA	TO-92S	Tape	3000pcs/Box

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	40	V
V _{CEO}	Collector-Emitter Voltage	30	V
V _{EB0}	Emitter-Base Voltage	4	V
I _C	Collector Current -Continuous	20	mA
P _C	Collector Power Dissipation	200	mW
T _J , T _{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

ELECTRICAL CHARACTERISTICS

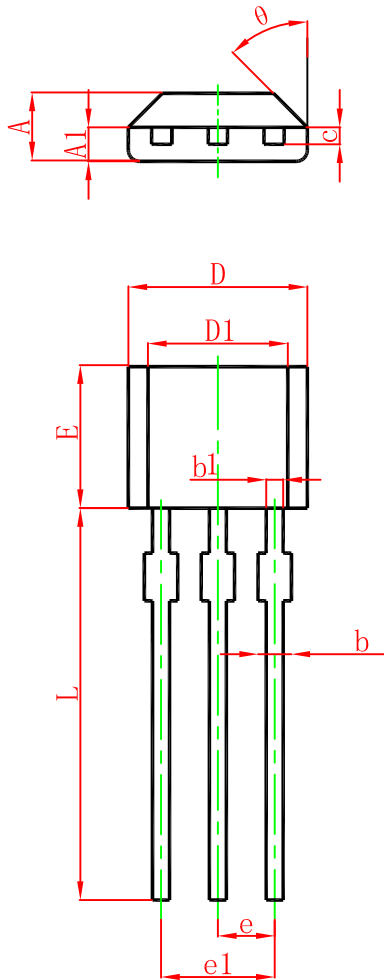
$T_a = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}$, $I_E = 0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}$, $I_B = 0$	30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}$, $I_C = 0$	4			V
Collector cut-off current	I_{CBO}	$V_{CB} = 40\text{V}$, $I_E = 0$			0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 4\text{V}$, $I_C = 0$			0.5	μA
DC current gain	h_{FE}	$V_{CE} = 6\text{V}$, $I_C = 1\text{mA}$	40		200	
Reverse Transfer Capacitance	C_{re}	$V_{CE} = 6\text{V}$, $f = 1\text{MHz}$		0.7		pF
Collector-Base Time Constant	$C_c \cdot r_{bb'}$	$V_{CE} = 6\text{V}$, $I_E = -1\text{mA}$, $f = 30\text{MHz}$			30	ps
Transition frequency	f_T	$V_{CE} = 6\text{V}$, $I_C = 1\text{mA}$		550		MHz
Power Gain	G_{pe}	$V_{CC} = 6\text{V}$, $I_C = 1\text{mA}$, $f = 100\text{MHz}$		18		dB
Noise figure	NF	$V_{CC} = 6\text{V}$, $I_C = 1\text{mA}$, $f = 100\text{MHz}$			5	dB

CLASSIFICATION OF h_{FE}

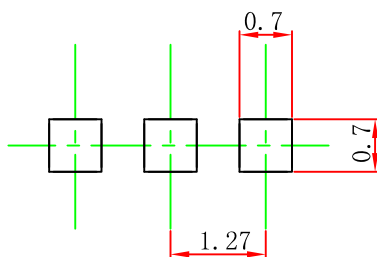
Rank	R	O	Y
Range	40-80	70-140	100-200

TO-92S Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.420	1.620	0.056	0.064
A1	0.660	0.860	0.026	0.034
b	0.330	0.480	0.013	0.019
b1	0.400	0.510	0.016	0.020
c	0.330	0.510	0.013	0.020
D	3.900	4.100	0.154	0.161
D1	2.280	2.680	0.090	0.106
E	3.050	3.250	0.120	0.128
e	1.270 TYP.		0.050 TYP.	
e1	2.440	2.640	0.096	0.104
L	15.100	15.500	0.594	0.610
θ	45° TYP.		45° TYP.	

TO-92S Suggested Pad Layout



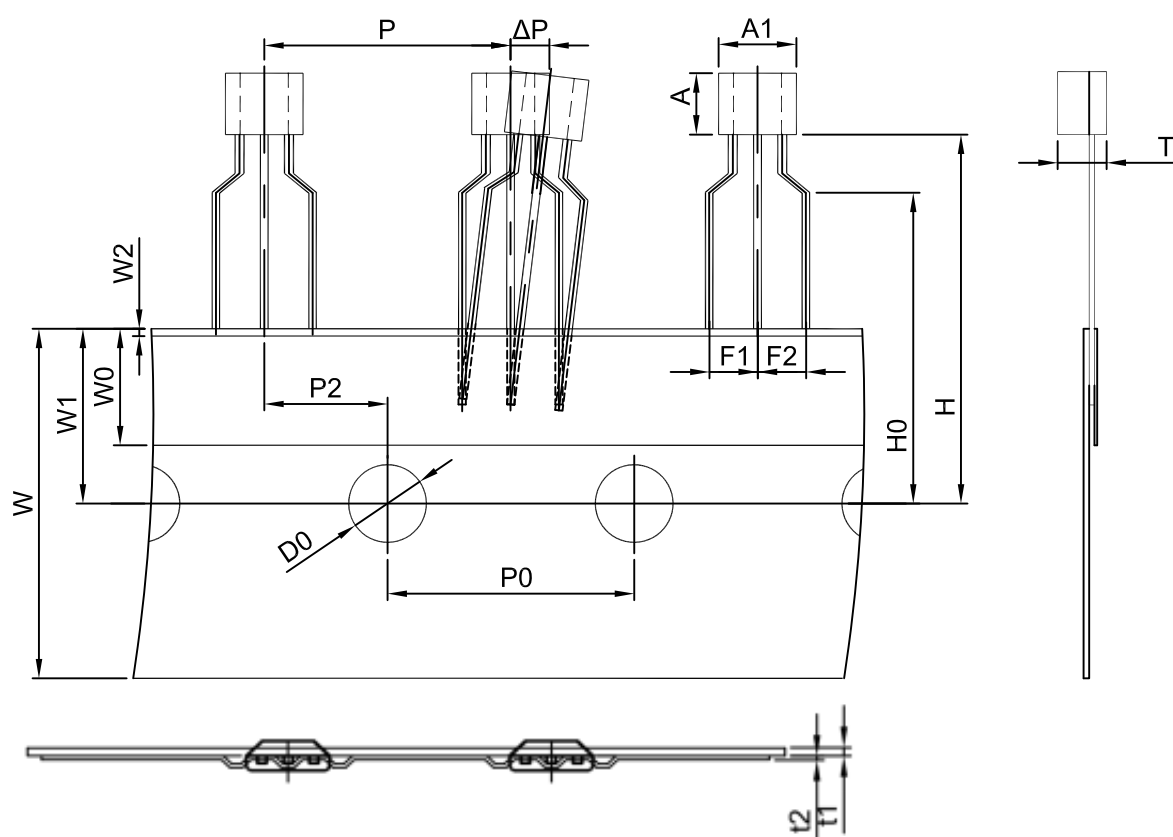
Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

NOTICE

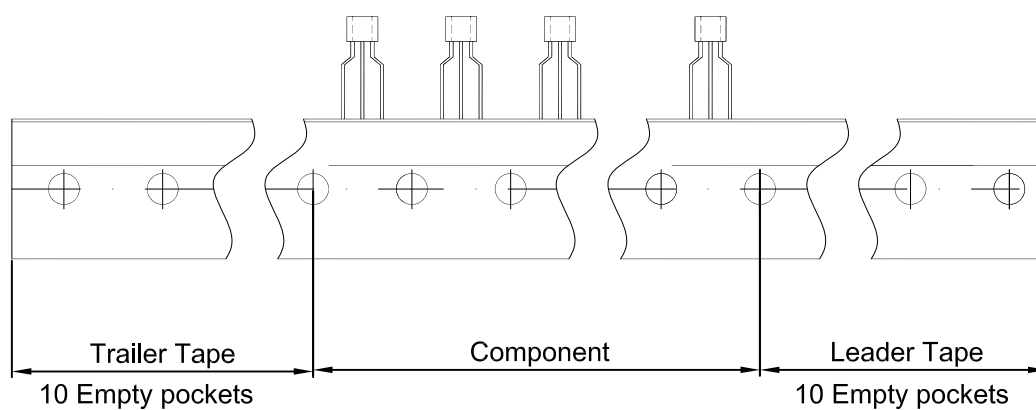
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TO-92S PACKAGE TAPING DIMENSION



Dimiensions are in millimeter

A1	A	T	P	P0	P2	F1	F2	W
4.0	3.15	1.52	12.7	12.7	6.35	2.5	2.5	18.0
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0	9.0	1.0	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92S	3000 pcs	333×162×43	30,000 pcs	350×340×250