

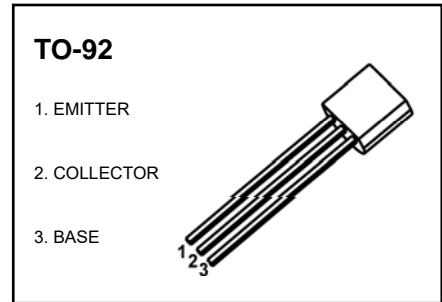


# TO-92 Plastic-Encapsulate Transistors

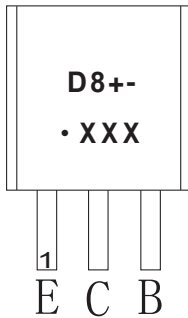
## 2SD879 TRANSISTOR (NPN)

### FEATURES

- In Applications Where Two NiCd Batteries are Used to provide 2.4V, two 2SD879s are used.
- The charge time is approximately 1 second faster than that of germanium transistors.
- Less power dissipation because of low Collector-to-Emitter Voltage  $V_{CE(sat)}$ , permitting more flashes of light to be emitted.
- Small package and large allowable collector dissipation (TO-92,  $P_C=750mW$ ).
- Large current capacity and highly resistant to break-down.
- Excellent linearity of  $h_{FE}$  in the region from low current to high current. Power amplifier applications

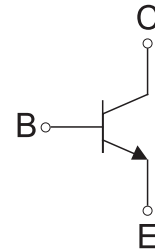


### MARKING



D879=Device code  
 Solid dot=Green molding compound device, if none, the normal device  
 XXX=Code

### Equivalent Circuit



### ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
2SD879	TO-92	Bulk	1000pcs/Bag
2SD879-TA	TO-92	Tape	2000pcs/Box

### MAXIMUM RATINGS ( $T_a=25^{\circ}C$ unless otherwise noted)

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	30	V
$V_{CEO}$	Collector-Emitter Voltage	10	V
$V_{CEX}$		20	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current –Continuous	3	A
$P_C$	Collector Power Dissipation	750	mW
$T_J, T_{stg}$	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}C$

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## ELECTRICAL CHARACTERISTICS

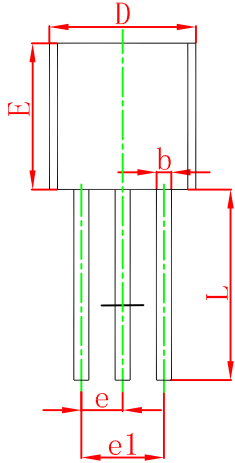
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$T_a=25^\circ\text{C}$  unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}$ , $I_E=0$	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEX}$	$I_C=1\text{mA}$ , $V_{BE}=3\text{V}$	20			V
	$V_{(BR)CEO}$	$I_C=10\text{mA}$ , $I_B=0$	10			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}$ , $I_C=0$	6			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=20\text{V}$ , $I_E=0$			1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4\text{V}$ , $I_C=0$			1	$\mu\text{A}$
DC current gain	$h_{FE}^*$	$V_{CE}=2\text{V}$ , $I_C=3\text{A}$	140			
Collector-emitter saturation voltage	$V_{CE(sat)}^*$	$I_C=3\text{A}$ , $I_B=60\text{mA}$			0.4	V
Transition frequency	$f_T$	$V_{CE}=10\text{V}$ , $I_C=50\text{mA}$		200		MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10\text{V}$ , $f=1\text{MHz}$		30		pF

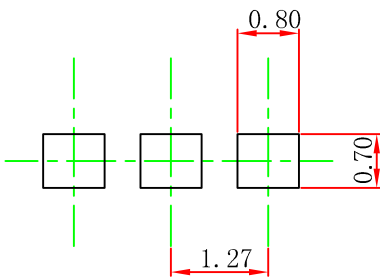
\*PULSE TEST

## TO-92 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

## TO-92 Suggested Pad Layout



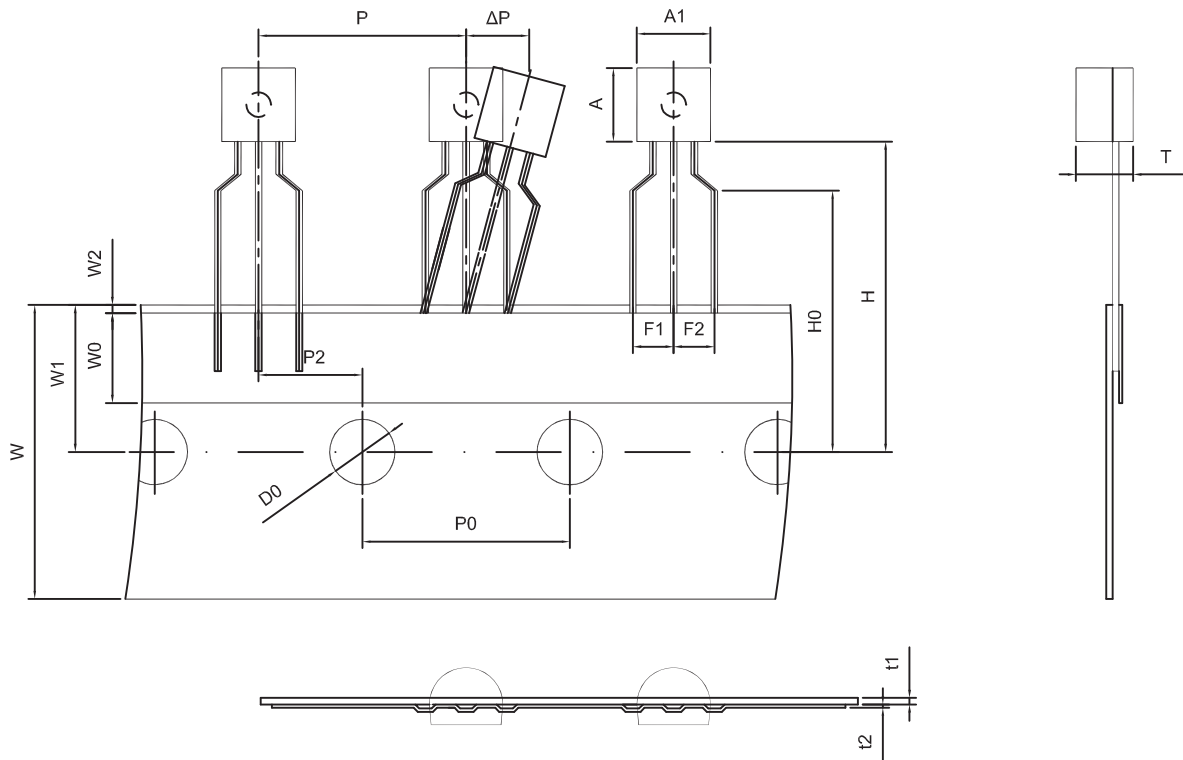
### Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

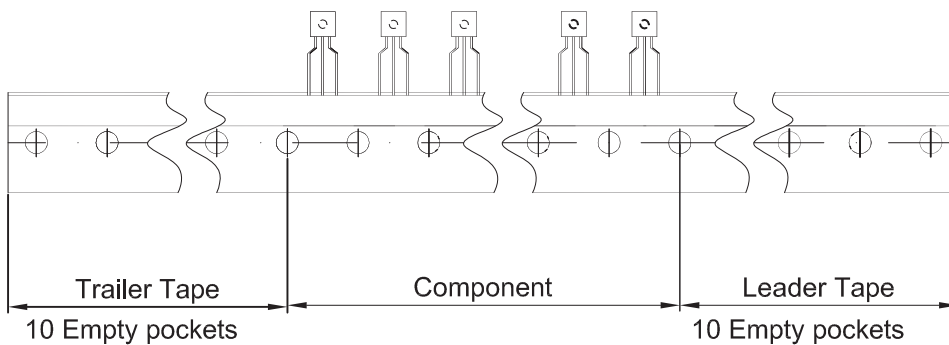
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TO-92 PACKAGE TAPING DIMENSION



Dimiensions are in millimeter								
A1	A	T	P	P0	P2	F1	F2	W
4.5	4.5	3.5	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 MAX.	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000 pcs	333×162×43	20,000 pcs	350×340×250

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