



JSCJ TO-92MOD Plastic-Encapsulate Transistors

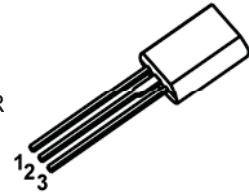
2SC2060 TRANSISTOR (NPN)

FEATURE

- Power Dissipation P_{CM} : 0.75 W ($T_{amb}=25^{\circ}C$)
- Low Saturation Voltage ($V_{CE(sat)}$)=0.15V at 500mA)
- Complementary Pair with 2SA934

TO-92MOD

1. EMITTER
2. COLLECTOR
3. BASE

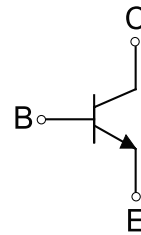


MARKING



C2060=Device code
Solid dot = Greenmolding compound device,
if none, the normal device
XXX=Code

Equivalent Circuit



ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
2SC2060	TO-92MOD	Bulk	500pcs/Bag
2SC2060-TA	TO-92MOD	Tape	2000pcs/Box

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

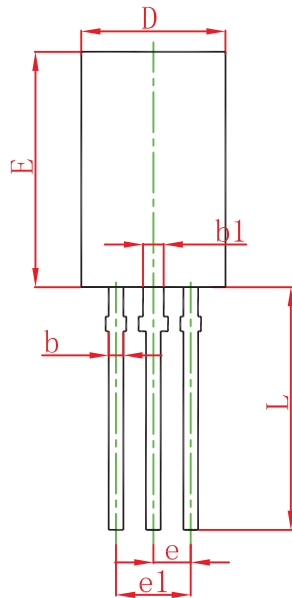
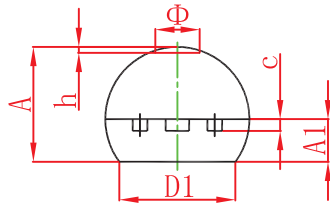
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	32	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	1	A
P_D	Collector Power Dissipation	750	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	167	$^{\circ}C/W$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}C$

ELECTRICAL CHARACTERISTICS

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

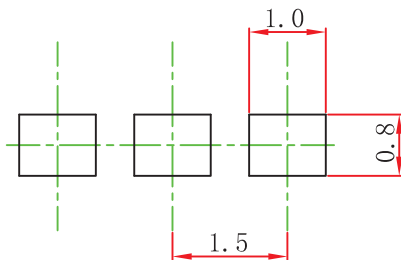
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V(\text{BR})_{\text{CBO}}$	$I_{\text{C}}=100\mu\text{A}$, $I_{\text{E}}=0$	40		V
Collector-emitter breakdown voltage	$V(\text{BR})_{\text{CEO}}$	$I_{\text{C}}=1\text{mA}$, $I_{\text{B}}=0$	32		V
Emitter-base breakdown voltage	$V(\text{BR})_{\text{EBO}}$	$I_{\text{E}}=100\mu\text{A}$, $I_{\text{C}}=0$	5		V
Collector cut-off current	I_{CBO}	$V_{\text{CB}}=20\text{V}$, $I_{\text{E}}=0$		0.5	μA
Emitter cut-off current	I_{EBO}	$V_{\text{EB}}=4\text{V}$, $I_{\text{C}}=0$		0.1	μA
DC current gain	$h_{\text{FE}(1)}$	$V_{\text{CE}}=3\text{V}$, $I_{\text{C}}=100\text{mA}$	80	400	
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}$	$I_{\text{C}}=500\text{mA}$, $I_{\text{B}}=50\text{mA}$		0.4	V
Transition frequency	f_{T}	$V_{\text{CE}}=5\text{V}$, $I_{\text{E}}=-50\text{mA}$	50		MHz
Collector output capacitance	C_{ob}	$V_{\text{CB}}=10\text{V}$, $I_{\text{E}}=0$, $f=1\text{MHz}$		30	pF

TO-92MOD Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.800	5.000	0.189	0.197
A1	1.730	2.030	0.068	0.080
b	0.440	0.600	0.017	0.024
b1	0.940	1.100	0.037	0.043
c	0.350	0.450	0.014	0.018
D	5.900	6.100	0.232	0.240
D1	4.000		0.157	
E	8.500	8.700	0.335	0.343
e	1.500 TYP.		0.059 TYP.	
e1	2.900	3.100	0.114	0.122
L	13.800	14.200	0.543	0.559
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

TO-92MOD Suggested Pad Layout



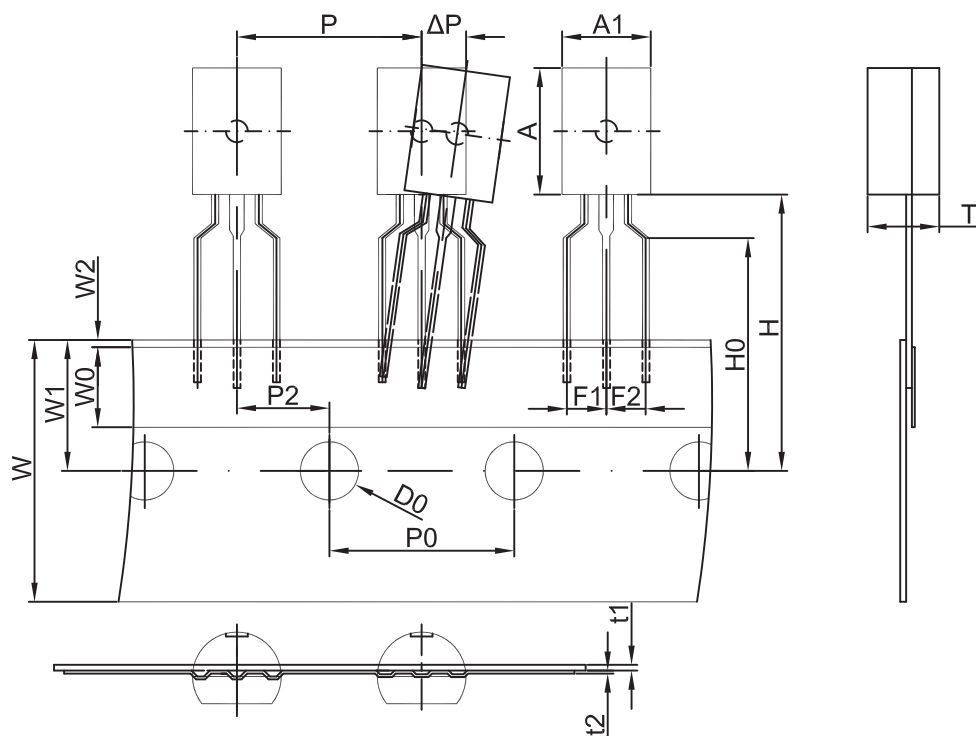
Note:

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

NOTICE

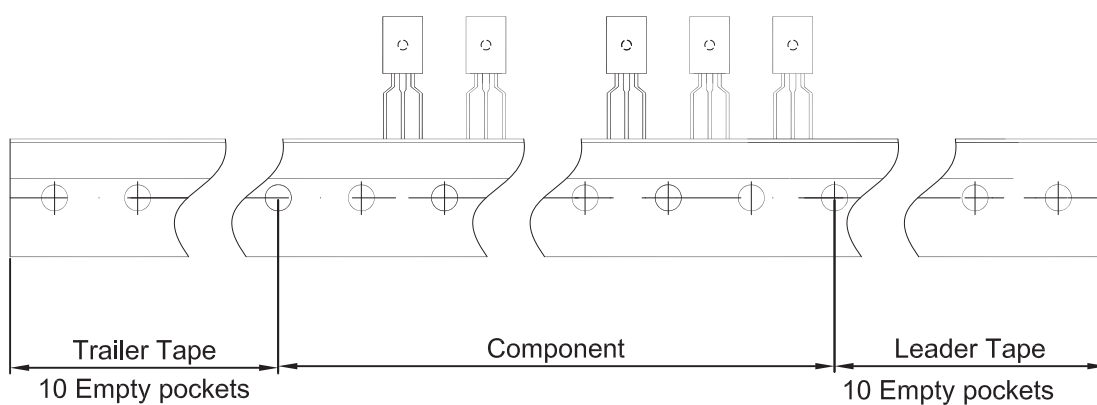
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TO-92MOD PACKAGE TAPING DIMENSION



Dimiensions are in millimeter

A1	A	T	P	P0	P2	F1	F2	W
6.0	8.6	4.9	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-92MOD	2000 pcs	333×245×43	20,000 pcs	573×404×266