

2N3828 TRANSISTOR (NPN)

FEATURES

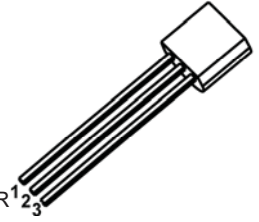
- General Purpose Amplifier Transistor

TO - 92

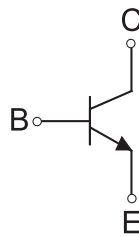
1. EMITTER

2. BASE

3. COLLECTOR¹₂₃



Equivalent Circuit

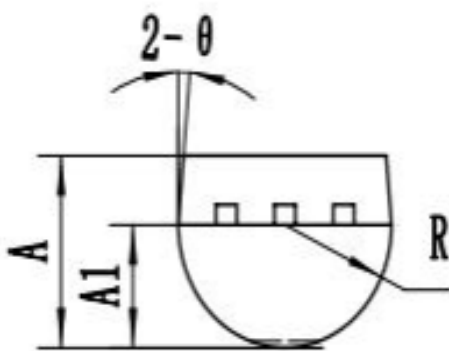
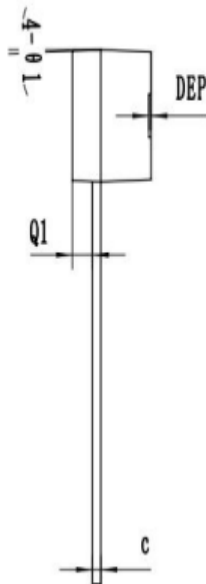
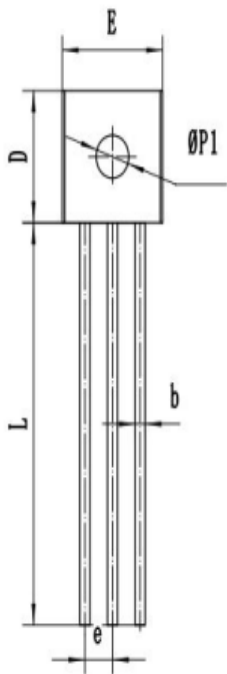


MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	40	V
V _{CE0}	Collector-Emitter Voltage	40	V
V _{EB0}	Emitter-Base Voltage	3	V
I _c	Collector Current -Continuous	0.1	A
P _D	Collector Power Dissipation	625	mW
R _{KJA}	Thermal Resistance from Junction to Ambient	200	°C /W
T _J ,T _{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=0.01\text{mA}, I_E=0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=0.01\text{mA}, I_C=0$	3			V
Collector cut-off current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$			0.1	μA
Collector cut-off current	I_{CEX}	$V_{CE}=30\text{V}, V_{BE(off)}=3\text{V}$			50	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			0.1	μA
DC current gain	h_{FE}	$V_{CE}=1\text{V}, I_C=12\text{mA}$	30		200	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=50\text{mA}, I_B=5\text{mA}$			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=50\text{mA}, I_B=5\text{mA}$			0.95	V
Transition frequency	f_T	$V_{CE}=20\text{V}, I_C=10\text{mA}, f=100\text{ MHz}$	360			MHz



SYMBOL	MM		
	MIN	NOM	MAX
*A	3.00	3.25	3.50
A1	2.20	2.30	2.40
*b	0.40	0.45	0.50
*c	0.25	0.30	0.35
*D	4.50	4.60	4.70
*E	4.50	4.60	4.70
*e	1.22	1.27	1.32
*L	14.00	14.30	14.60
R	2.20	2.30	2.40
Q1	0.85	0.90	0.95
θ	3°	5°	7°
Ø1	1°	3°	5°
ØP1	1.40	1.50	1.60
DEP	0.05	0.10	0.20
带*为检验尺寸			