

isc Silicon NPN Power Transistor

2N4401

DESCRIPTION

- With TO-92 packaging
- Very high DC current gain
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

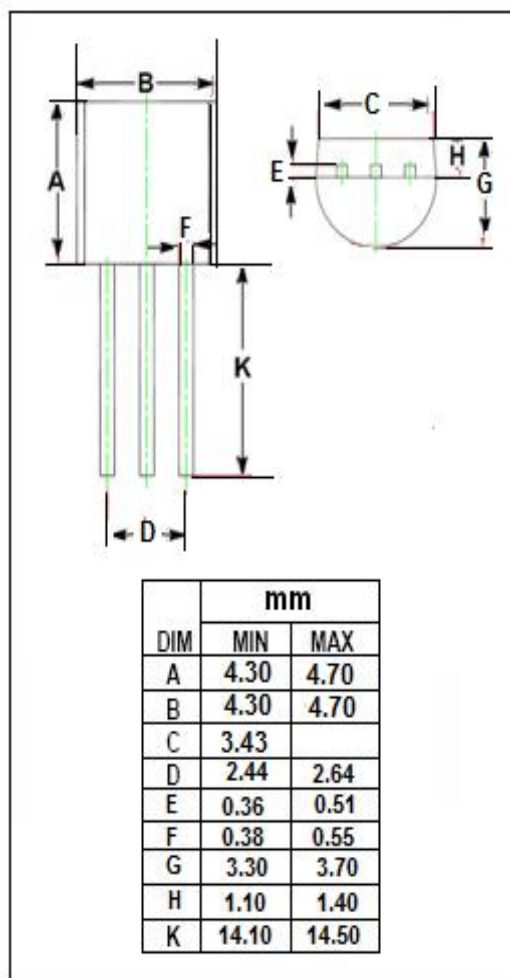
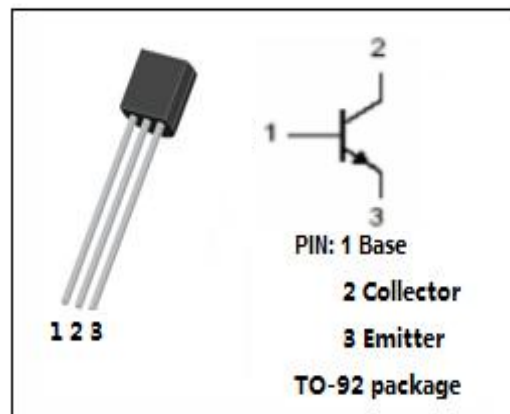
- AC-DC motor control
- Electronic ignition
- Alternator regulator

ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	0.6	A
I_{CM}	Collector Current-Peak	1.2	A
P_T	Total Power Dissipation	1.5	W
T_j	Max.Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^{\circ}\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-a}$	Thermal Resistance,Junction to Ambient	83.3	$^{\circ}\text{C/W}$



isc Silicon NPN Power Transistor**2N4401****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
BV _{CEO}	Collector-Emitter Sustaining Voltage	I _C = 1mA, I _B = 0	40		V
V _{CE(sat)} -1	Collector-Emitter Saturation Voltage	I _C =150mA, I _B = 15mA		0.4	V
V _{CE(sat)} -2	Collector-Emitter Saturation Voltage	I _C =500mA, I _B = 50mA		0.75	V
V _{BE(sat)} -1	Base-Emitter Saturation Voltage	I _C =150mA, I _B = 15mA		0.95	V
V _{BE(sat)} -2	Base-Emitter Saturation Voltage	I _C =500mA, I _B = 50mA		1.2	V
I _{CBO}	Collector Cutoff Current	V _{CB} =60V, I _E = 0		0.1	μA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0		0.1	μA
h _{FE-1}	DC Current Gain	I _C = 0.1mA ; V _{CE} = 1V	20		
h _{FE-2}	DC Current Gain	I _C = 1mA ; V _{CE} = 1V	40		
h _{FE-3}	DC Current Gain	I _C = 10mA ; V _{CE} = 1V	80		
h _{FE-4}	DC Current Gain	I _C = 150mA ; V _{CE} = 1V	100	300	
h _{FE-5}	DC Current Gain	I _C = 500mA ; V _{CE} = 2V	40		

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