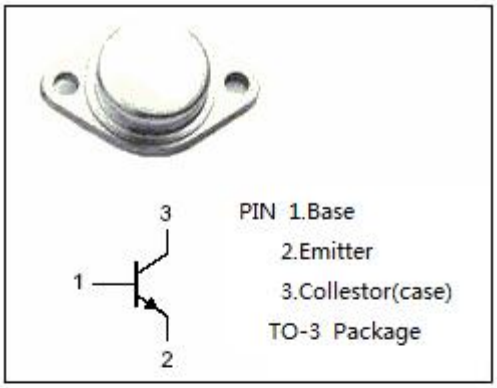
isc Silicon NPN Power Transistor 2N3902

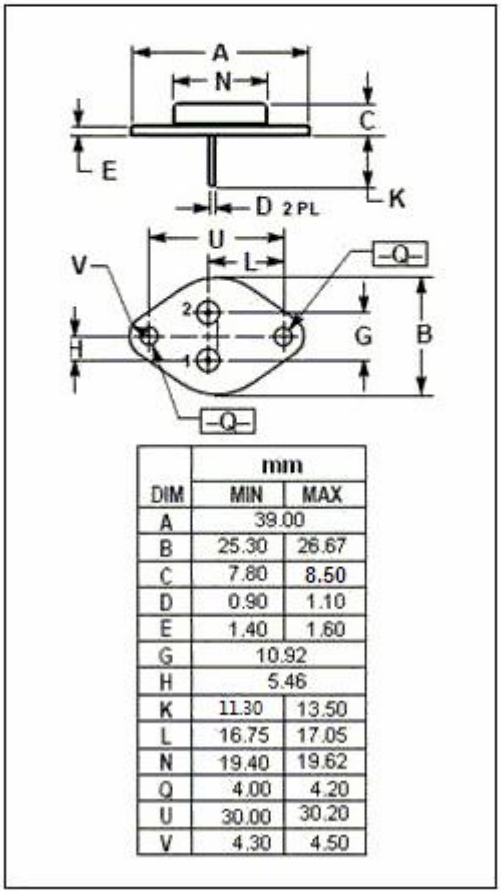
DESCRIPTION

- Excellent Safe Operating Area
- Low Collector-Emitter Saturation Voltage
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation.



APPLICATIONS

- Designed for general-purpose switching and amplifier applications



DIM	mm MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.50
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.30	13.50
L	16.75	17.05
N	19.40	19.62
Q	4.00	4.20
U	30.00	30.20
V	4.30	4.50

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CEX}	Collector-Emitter Voltage	700	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	3.5	A
P_C	Collector Power Dissipation@T_C=25℃	100	W
T_J	Operating Temperature Range	-65~+150	℃
T_{stg}	Storage Junction Temperature Range	-65~+200	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	0.75	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$ *	Collector-Emitter Sustaining Voltage	I_C=100mA ; I_B=0	325		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 1A; I_B= 0.1A		0.8	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 2.5A; I_B= 0.5A		2.5	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	I_C= 1A; I_B= 0.1A		1.5	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	I_C= 2.5A; I_B= 0.5A		2.0	V
I_{CEO}	Collector Cutoff Current	V_{CE}= 400V; I_B=0		0.25	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5.0V; I_C=0		5.0	mA
h_{FE-1}	DC Current Gain	I_C= 2.5A ; V_{CE}= 5V	10		
h_{FE-2}	DC Current Gain	I_C= 1A ; V_{CE}= 5V	30	90	
f_T	Current Gain-Bandwidth Product	I_C= 0.2A ; V_{CE}= 10V;f=1.0MHz	2.8		MHz

*:Pulse test:Pulse width=300us,duty cycle≤2%