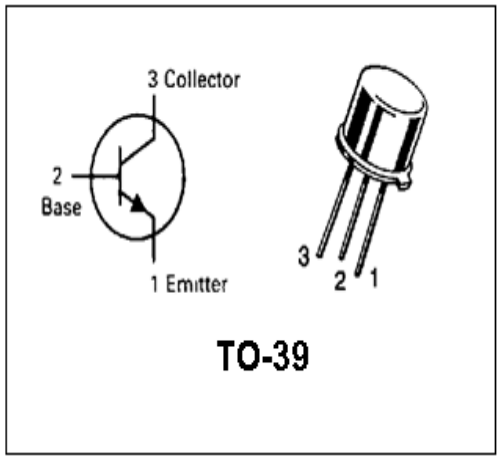
isc Silicon NPN Power Transistor 2N3019

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	140	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	1	A
P_C	Collector Power Dissipation@T_C=25℃	5	W
T_{stg}	Storage Temperature	-65~200	℃



THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}a}$	Thermal Resistance,Junction to Ambient	217	℃/W
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	35	℃/W

isc Silicon NPN Power Transistors 2N3019

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V_{CEO}	Collector-Emitter Breakdown Voltage	I_C=30mA ; I_B=0	80		V
V_{CBO}	Collector-Base Breakdown Voltage	I_C=0.1mA ; I_E=0	140		V
V_{EBO}	Emitter-Base Breakdown Voltage	I_C=0.1mA ; I_E=0	7		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C=150mA; I_B= 15mA		0.2	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 0.5A; I_B= 50mA		0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 150mA ; I_B=15mA		1.1	V
I_{CBO}	Collector Cutoff Current	V_{CE}= 90V; I_B=0		1.5	uA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5.0V; I_C=0		0.1	uA
h_{FE-1}	DC Current Gain	I_C= 0.1mA ; V_{CE}= 10V	50		
h_{FE-2}	DC Current Gain	I_C= 10mA ; V_{CE}= 10V	90		
h_{FE-3}	DC Current Gain	I_C= 150mA ; V_{CE}= 10V	100	300	
h_{FE-3}	DC Current Gain	I_C= 0.5A ; V_{CE}= 10V	50		
h_{FE-4}	DC Current Gain	I_C= 1A ; V_{CE}= 10V	15		
f_T	Current Gain-Bandwidth Product	I_C= 50mA ; V_{CE}= 10V;f=20MHz	100	400	MHz