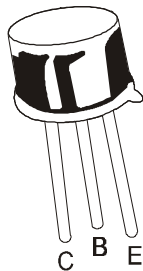


NPN SILICON PLANAR TRANSISTOR

2N1711



**TO-39
Metal Can Package**

General Purpose Transistor

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	VALUE	UNIT
Collector Emitter Voltage, $R_{BE} \leq 10W$	V_{CER}	50	V
Collector Base Voltage	V_{CBO}	75	V
Emitter Base Voltage	V_{EBO}	7.0	V
Power Dissipation at $T_a=25^\circ C$ Derate Above $25^\circ C$	P_D	800 4.57	mW mW/ $^\circ C$
Power Dissipation at $T_c=25^\circ C$ Derate Above $25^\circ C$	P_D	3.0 17.15	W mW/ $^\circ C$
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 65 to +200	$^\circ C$

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ C$ unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Emitter Voltage	V_{CER}	$I_C=1mA, R_{BE} \leq 10 \Omega$	50			V
Collector Base Voltage	V_{CBO}	$I_C=100\mu A, I_E=0$	75			V
Emitter Base Voltage	V_{EBO}	$I_E=100\mu A, I_C=0$	7.0			V
Collector Cut Off Current	I_{CBO}	$V_{CB}=60V, I_E=0$			10	nA
		$V_{CB}=60V, I_E=0, T_a=150^\circ C$			10	μA
Emitter Cut Off Current	I_{EBO}	$V_{EB}=5V, I_C=0$			5.0	nA
DC Current Gain	h_{FE}	$I_C=0.01mA, V_{CE}=10V$	20			
		$I_C=0.1mA, V_{CE}=10V$	35			
		$I_C=10mA, V_{CE}=10V$	75			
		$I_C=10mA, V_{CE}=10V, T_a= -55^\circ C$	35			
		$I_C=150mA, V_{CE}=10V$	100			300
		$I_C=500mA, V_{CE}=10V$	40			
Collector Emitter Saturation Voltage	$*V_{CE(sat)}$	$I_C=150mA, I_B=15mA$			0.5	V
Base Emitter Saturation Voltage	$*V_{BE(sat)}$	$I_C=150mA, I_B=15mA$			1.3	V

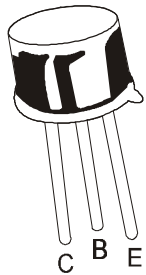
SMALL SIGNAL CHARACTERISTICS

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Transition Frequency	f_T	$I_C=50mA, V_{CE}=10V, f=20MHz$	70			MHz
Output Capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=100KHz$			25	pF
Input Capacitance	C_{ib}	$V_{EB}=0.5V, I_C=0, f=100KHz$			80	pF
Input Impedance	h_{ib}	$I_C=1mA, V_{CB}=5V, f=1KHz$	24		34	Ω
		$I_C=5mA, V_{CB}=10V, f=1KHz$	4.0		8.0	Ω
Voltage Feedback Ratio	h_{rb}	$I_C=1mA, V_{CB}=5V, f=1KHz$			5.0	$\times 10^{-4}$
		$I_C=5mA, V_{CB}=10V, f=1KHz$			5.0	$\times 10^{-4}$
Small Signal Current Gain	h_{fe}	$I_C=1mA, V_{CB}=5V, f=1KHz$	50		200	
		$I_C=5mA, V_{CB}=10V, f=1KHz$	70		300	

*Pulse Test: Pulse Width $\leq 300ms$, Duty Cycle $\leq 2\%$

NPN SILICON PLANAR TRANSISTOR

2N1711



TO-39
Metal Can Package

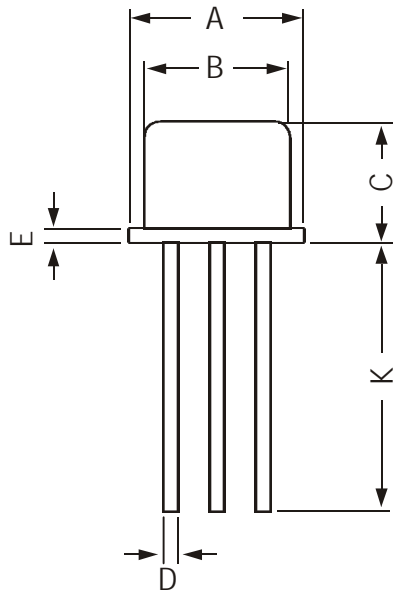
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless specified otherwise)

SMALL SIGNAL CHARACTERISTICS

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Output Admittance	h_{ob}	$I_C=1\text{mA}$, $V_{CB}=5\text{V}$, $f=1\text{KHz}$	0.05		0.5	μmhos
		$I_C=5\text{mA}$, $V_{CB}=10\text{V}$, $f=1\text{KHz}$	0.05		0.5	μmhos
Noise Figure	NF	$I_C=300\mu\text{A}$, $V_{CE}=10\text{V}$, $f=1\text{KHz}$			8.0	dB

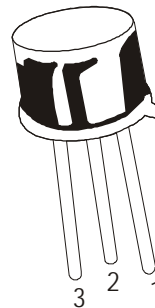
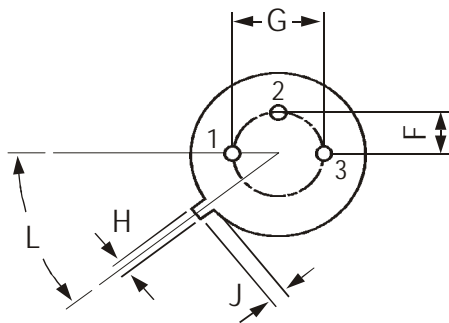
2N1711Rev_1 040406E

TO-39 Metal Can Package



All dimensions are in mm

DIM	MIN	MAX
A	8.50	9.39
B	7.74	8.50
C	6.09	6.60
D	0.40	0.53
E	—	0.88
F	2.41	2.66
G	4.82	5.33
H	0.71	0.86
J	0.73	1.02
K	12.70	—
L	42 DEG	48 DEG



PIN CONFIGURATION

1. EMITTER
2. BASE
3. COLLECTOR

Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-39	500 pcs/polybag	540 gm/500 pcs	3" x 7.5" x 7.5"	20K	17" x 15" x 13.5"	32K	40 kgs

Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

Disclaimer

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