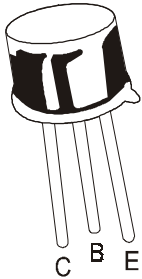


**NPN SILICON PLANAR TRANSISTOR**

**2N1711**



**TO-39  
Metal Can Package**

**N-P-N Double Diffused Transistor in a TO-39 Metal Package for a Wide Variety of Applications Such As d.c. and Wideband Amplifiers.**

**ABSOLUTE MAXIMUM RATINGS (Ta=25°C unless specified otherwise)**

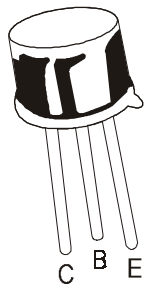
DESCRIPTION	SYMBOL	2N1711	UNITS
Collector Emitter Voltage(RBE<10Ω)	V <sub>CER</sub>	130	V
Collector Base Voltage	V <sub>CBO</sub>	75	V
Emitter Base Voltage	V <sub>EBO</sub>	7.0	V
Collector Current(Peak Value)	I <sub>CM</sub>	1.0	A
Power Dissipation @ Ta=25°C	P <sub>tot</sub>	0.8	W
Power Dissipation@ Tc=100°C	P <sub>tot</sub>	1.7	W
Power Dissipation@ Tc=25°C	P <sub>tot</sub>	3	W
Junction Temperature	T <sub>j</sub>	200	°C
Storage Temperature	T <sub>stg</sub>	-65 to +200	°C
Lead Soldering Temperature >1.5mm from the seating plane;tsld<10s	T <sub>sld</sub>	300	°C

**ELECTRICAL CHARACTERISTICS (Ta=25° C unless specified otherwise)**

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
Collector Emitter(Sus) Voltage	BV <sub>CER(sus)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =0, R <sub>BE</sub> <10Ω	50		V
Collector Base Breakdown Voltage	BV <sub>CBO</sub>	I <sub>C</sub> =100μA, I <sub>E</sub> =0	75		V
Emitter Base Breakdown Voltage	BV <sub>EBO</sub>	I <sub>E</sub> =100μA, I <sub>C</sub> =0	7		V
Collector Cut off Current	I <sub>CBO</sub>	V <sub>CB</sub> =60V, I <sub>E</sub> =0		10	nA
		V <sub>CB</sub> =60V, I <sub>E</sub> =0, Ta=150°C		10	μA
Emitter Cut off Current	I <sub>EBO</sub>	V <sub>EB</sub> =5V, I <sub>C</sub> =0		5	nA
DC Current Gain	h <sub>FE</sub>	I <sub>C</sub> =10μA, V <sub>CE</sub> =10V	20		
		I <sub>C</sub> =1mA, V <sub>CE</sub> =10V	35		
		I <sub>C</sub> =10mA, V <sub>CE</sub> =10V*	75		
		I <sub>C</sub> =10mA, V <sub>CE</sub> =10V, Ta=-55°C	35		
		I <sub>C</sub> =150mA, V <sub>CE</sub> =10V*	100	300	
		I <sub>C</sub> =500mA, V <sub>CE</sub> =10V*	40		
Collector Emitter Saturation Voltage	V <sub>CE(Sat)</sub> *	I <sub>C</sub> =150mA, I <sub>B</sub> =15mA		0.5	V
Base Emitter Saturation Voltage	V <sub>BE(Sat)</sub> *	I <sub>C</sub> =150mA, I <sub>B</sub> =15mA		1.3	V

# NPN SILICON PLANAR TRANSISTOR

2N1711



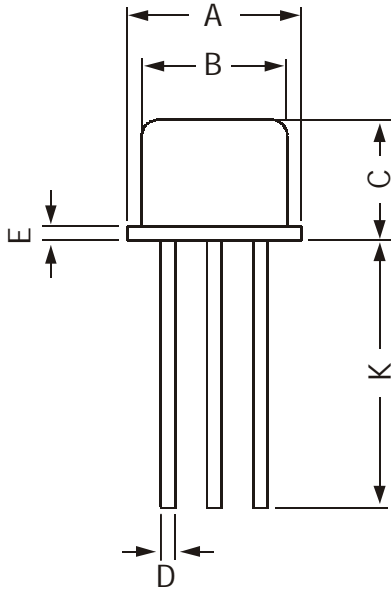
**TO-39  
Metal Can Package**

## ELECTRICAL CHARACTERISTICS (Ta=25°C unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	MAX	UNITS
<b><u>SMALL SIGNAL CHARACTERISTICS</u></b>					
Small Signal Current Gain	$ h_{fe} $	$I_C=1\text{mA}, V_{CE}=5\text{V},$ $I_C=5\text{mA}, V_{CE}=10\text{V},$	30	200	
Collector Capacitance	$C_c$	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$	70	300	pF
Emitter Capacitance	$C_e$	$V_{CB}=0.5\text{V}, I_C=0, f=1\text{MHz}$		25	pF
Transition Frequency	$f_T$	$I_C=50\text{mA}, V_{CE}=10\text{V}$ $f=20\text{MHz}$	70	80	MHz
Noise Figure	NF	$V_{CE}=10\text{V}, I_C=300\mu\text{A},$ $R_S=510\Omega, B=1\text{kHz}$		8.0	dB

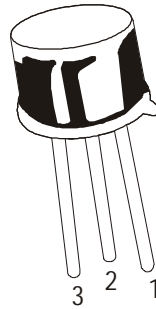
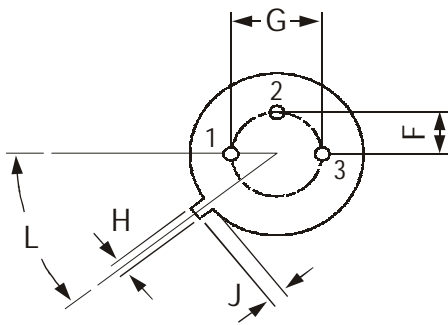
\* Measured under pulse conditions to avoid excessive dissipation :  $t_p < 300\mu\text{s}$ ; Duty cycle  $< 0.02$

**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

### Disclaimer

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