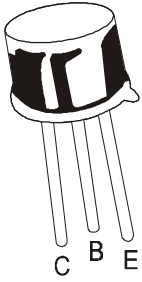


NPN SILICON PLANAR TRANSISTORS

**2N4237, 2N4238
2N4239**

**TO-39
Metal Can Package**



General Purpose Transistor

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	2N4237	2N4238	2N4239	UNIT
Collector Emitter Voltage	V_{CEO}	40	60	80	V
Collector Base Voltage	V_{CBO}	50	80	100	V
Emitter Base Voltage	V_{EBO}	6.0			V
Base Current	I_B	500			mA
Collector Current Continuous	I_C	1.0			A
Power Dissipation @ $T_a=25^\circ\text{C}$ Derate Above 25°C	P_D	1.0			W
		5.3			mW/ °C
Power Dissipation @ $T_c=25^\circ\text{C}$ Derate Above 25°C	P_D	6.0			W
		34			mW/ °C
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 65 to +200			°C

THERMAL CHARACTERISTICS

Junction to Case	$R_{th(j-c)}$	29	°C/W
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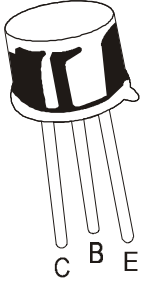
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	2N4237	2N4238	2N4239	UNIT
Collector Emitter Voltage	V_{CEO}	$I_C=1\text{mA}, I_B=0$	40	60	80	V
Collector Cut Off Current	I_{CEX}	$V_{CE}=50\text{V}, V_{EB}=1.5\text{V}$	0.1	0.1	0.1	mA
		$V_{CE}=80\text{V}, V_{EB}=1.5\text{V}$				mA
		$V_{CE}=100\text{V}, V_{EB}=1.5\text{V}$		mA		
		$T_c=150^\circ\text{C}$				
		$V_{CE}=30\text{V}, V_{EB}=1.5\text{V}$	1.0			mA
		$V_{CE}=50\text{V}, V_{EB}=1.5\text{V}$		1.0		mA
		$V_{CE}=70\text{V}, V_{EB}=1.5\text{V}$			1.0	mA

			MIN	TYP	MAX	
Collector Cut Off Current	I_{CBO}	$V_{CB}=\text{Rated } V_{CBO}, I_E=0$			0.1	mA
Collector Cut Off Current	I_{CEO}	$V_{CE}=\text{Rated } V_{CEO}, I_B=0$			0.07	mA
Emitter Cut Off Current	I_{EBO}	$V_{EB}=6\text{V}, I_C=0$			0.5	mA
DC Current Gain	$*h_{FE}$	$I_C=50\text{mA}, V_{CE}=1\text{V}$	30		150	
		$I_C=250\text{mA}, V_{CE}=1\text{V}$	30			
		$I_C=500\text{mA}, V_{CE}=1\text{V}$	30			
		$I_C=1\text{A}, V_{CE}=1\text{V}$	15			

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

NPN SILICON PLANAR TRANSISTORS



2N4237, 2N4238
2N4239

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
Collector Emitter Saturation Voltage	$*V_{CE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			0.3	V
		$I_C=1\text{A}, I_B=0.1\text{A}$			0.6	V
Base Emitter Saturation Voltage	$*V_{BE(sat)}$	$I_C=1\text{A}, I_B=0.1\text{A}$			1.5	V
Base Emitter On Voltage	$*V_{BE(on)}$	$I_C=250\text{mA}, V_{CE}=1\text{V}$			1.0	V

SMALL SIGNAL CHARACTERISTICS

Output Capacitance	C_{obo}	$V_{CB}=10\text{V}, I_E=0,$ $f=0.1\text{MHz}$			100	pF
Small Signal Current Gain	h_{fe}	$I_C=100\text{mA}, V_{CE}=10\text{V},$ $f=1\text{KHz}$	30			
Current Gain High Frequency	$ h_{fe} $	$I_C=100\text{mA}, V_{CE}=10\text{V},$ $f=1\text{MHz}$	1.0			

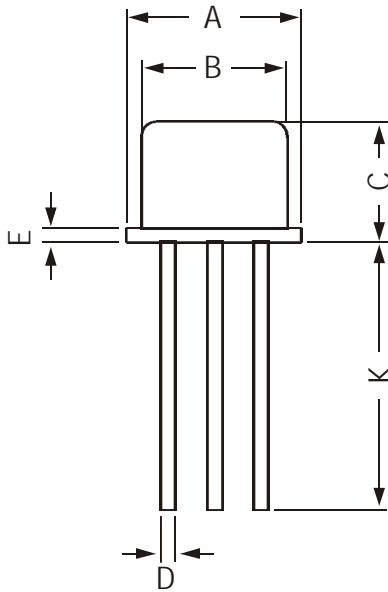
*Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

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**2N4237, 2N4238
2N4239**

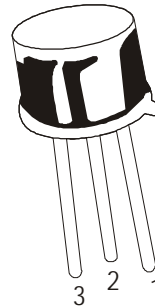
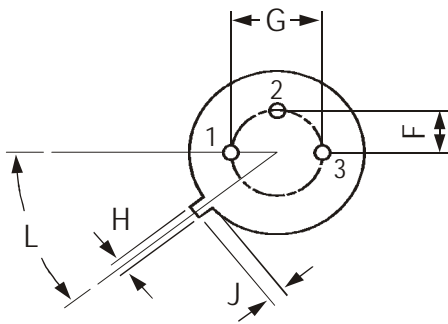
**TO-39
Metal Can Package**

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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