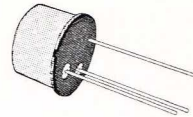
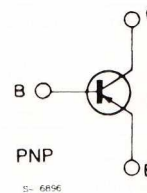


MEDIUM SPEED SWITCH
DESCRIPTION

The 2N4037 is a silicon planar epitaxial PNP transistor in a Jedec TO-39 metal case. It is intended particularly as medium speed saturated switch and general purpose amplifier.



TO-39

INTERNAL SCHEMATIC DIAGRAM

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-base Voltage ($I_E = 0$)	- 60	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)	- 40	V
V_{CER}	Collector-emitter Voltage ($R_{BE} \leq 200 \Omega$)	- 60	V
V_{CEV}	Collector-emitter Voltage ($V_{BE} = 1.5 \text{ V}$)	- 60	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)	- 6	V
I_C	Collector Current	- 1	A
I_B	Base Current	- 0.5	A
P_{tot}	Total Power Dissipation at $T_{amb} \leq 25^\circ \text{C}$	7	W
T_{stg}, T_J	Storage and Junction Temperature	- 65 to 200	$^\circ \text{C}$

THERMAL DATA

$R_{th\ j-case}$	Thermal Resistance Junction-case	Max	25	$^{\circ}C/W$
$R_{th\ j-amb}$	Thermal Resistance Junction-ambient	Max	175	$^{\circ}C/W$

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

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cutoff Current ($I_E = 0$)	$V_{CB} = -60\ V$			- 250	nA
I_{CEO}	Collector Cutoff Current ($I_B = 0$)	$V_{CE} = -30\ V$			- 5	μA
I_{EBO}	Emitter Cutoff Current ($I_C = 0$)	$V_{EB} = -5\ V$			- 1	μA
V_{EBO}	Emitter-base Voltage	$I_E = -100\ \mu A$ $I_C = 0$	- 7			V
V_{CBO}	Collector-base Voltage ($I_E = 0$)	$I_C = -100\ \mu A$	- 60			V
$V_{(BR)CEO}^*$	Collector-emitter Breakdown Voltage ($I_B = 0$)	$I_C = -10\ mA$	- 40			V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = -150\ mA$ $I_B = -15\ mA$			- 1.4	V
$V_{(BR)CEV}^*$	Collector-emitter Breakdown Voltage	$I_C = -10\ mA$ $V_{BE} = 1.5\ V$	- 60			V
$V_{(BR)CEr}^*$	Collector-emitter Breakdown Voltage	$I_C = -10\ mA$ $R_{BE} = 200\ \Omega$	- 60			V
V_{BE}^*	Base-emitter Voltage	$I_C = -150\ mA$ $V_{CE} = -10\ V$			- 1.5	V
h_{FE}^*	DC Current Gain	$I_C = -1\ mA$ $V_{CE} = -10\ V$ $I_C = -150\ mA$ $V_{CE} = -10\ V$	15 50		250	
h_{fe}	Small Signal Current Gain	$I_C = -50\ mA$ $V_{CE} = -10\ V$ $f = 20\ MHz$	3			
C_{CBO}	Collector-base Capacitance ($I_E = 0$)	$V_{CB} = -10\ V$			30	pF
C_{EBO}	Emitter-base Capacitance ($I_E = 0$)	$V_{EB} = -0.5\ V$			90	pF

* Pulsed : pulse duration = 300 μs , duty cycle = 1,5 %.