

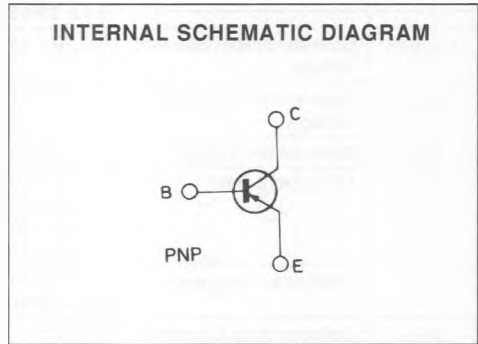
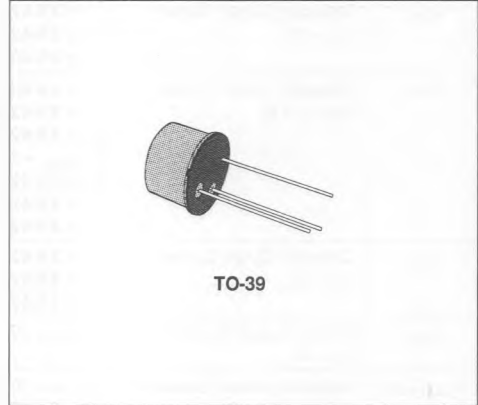
## MEDIUM POWER GENERAL PURPOSE TRANSISTORS

### DESCRIPTION

The 2N4234, 2N4235 and 2N4236 are silicon epitaxial planar PNP transistors mounted in Jedec TO-39 metal case.

They are intended for use in switching and amplifier applications.

The complementary NPN types are the 2N4237, and 2N4238 and 2N4239 respectively.



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	2N4234	2N4235	2N4236	Unit
$V_{CBO}$	Collector-base Voltage ( $I_E = 0$ )	- 40	- 60	- 80	V
$V_{CEO}$	Collector-emitter Voltage ( $I_B = 0$ )	- 40	- 60	- 80	V
$V_{EBO}$	Emitter-base Voltage ( $I_C = 0$ )	- 7			V
$I_C$	Collector Current	- 3			A
$I_B$	Base Current	- 0.2			A
$P_{TOT}$	Total Power Dissipation at $T_{case} \leq 25^\circ\text{C}$ $T_{amb} \leq 25^\circ\text{C}$	6			W
		1			W
$T_{stg}$	Storage Temperature	- 65 to 200			$^\circ\text{C}$
$T_J$	Junction Temperature	200			$^\circ\text{C}$

## THERMAL DATA

$R_{th\ j\ case}$	Thermal Resistance Junction-case	Max	29	°C/W
$R_{th\ j\ amb}$	Thermal Resistance Junction-ambient	Max	175	°C/W

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

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CBO}$	Collector Cutoff Current ( $I_E = 0$ )	for <b>2N4234</b> $V_{CE} = -40V$ for <b>2N4235</b> $V_{CE} = -60V$ for <b>2N4236</b> $V_{CE} = -80V$			- 0.1 - 0.1 - 0.1	mA mA mA
$I_{CEV}$	Collector Cutoff Current ( $V_{BE} = 1.5$ )	for <b>2N4234</b> $V_{CE} = -40V$ for <b>2N4235</b> $V_{CE} = -60V$ for <b>2N4236</b> $V_{CE} = -80V$ $T_{case} = 150^{\circ}C$ for <b>2N4234</b> $V_{CE} = -30V$ for <b>2N4235</b> $V_{CE} = -40V$ for <b>2N4236</b> $V_{CE} = -60V$			- 0.1 - 0.1 - 0.1  - 1 - 1 - 1	mA mA mA  mA mA mA
$I_{CEO}$	Collector Cutoff Current ( $I_B = 0$ )	for <b>2N4234</b> $V_{CE} = -30V$ for <b>2N4235</b> $V_{CE} = -40V$ for <b>2N4236</b> $V_{CE} = -60V$			- 1 - 1 - 1	mA mA mA
$I_{EBO}$	Emitter Cutoff Current ( $I_C = 0$ )	$V_{EB} = 7V$			- 0.5	mA
$V_{CEO(sus)}^*$	Collector-emitter Sustaining Voltage ( $I_B = 0$ )	$I_C = -100mA$ for <b>2N4234</b> for <b>2N4235</b> for <b>2N4236</b>	- 40 - 60 - 80			V V V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = -1A$ $I_B = -100mA$			- 0.6	V
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	$I_C = -1A$ $I_B = -100mA$			- 1.5	V
$V_{BE}^*$	Base-emitter Voltage	$I_C = -0.25A$ $V_{CE} = -1V$			- 1	V
$h_{FE}^*$	DC Current Gain	$I_C = -100mA$ $V_{CE} = -1V$ $I_C = -250mA$ $V_{CE} = -1V$ $I_C = -500mA$ $V_{CE} = -1V$ $I_C = -1A$ $V_{CE} = -1V$	40 30 20 10		150	
$f_T$	Transistion Frequency	$I_C = -100mA$ $V_{CE} = -10V$ $f = 1MHz$	3			MHz
$C_{CBO}$	Collector-base Capacitance	$I_E = 0$ $V_{CB} = -10V$ $f = 100KHz$			100	pF
$h_{fe}$	Small Signal Current Gain	$I_C = -50mA$ $V_{CE} = -10V$ $f = 1KHz$	25			

\* Pulsed : pulse duration = 300 $\mu$ s, duty cycle  $\leq$  2%.