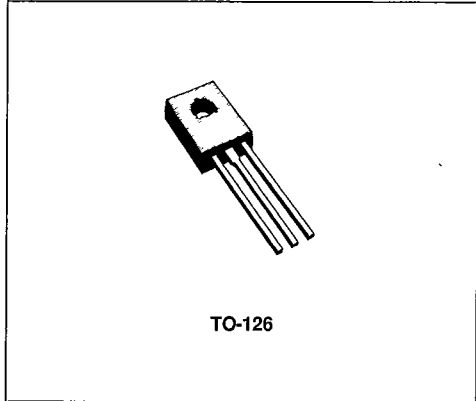


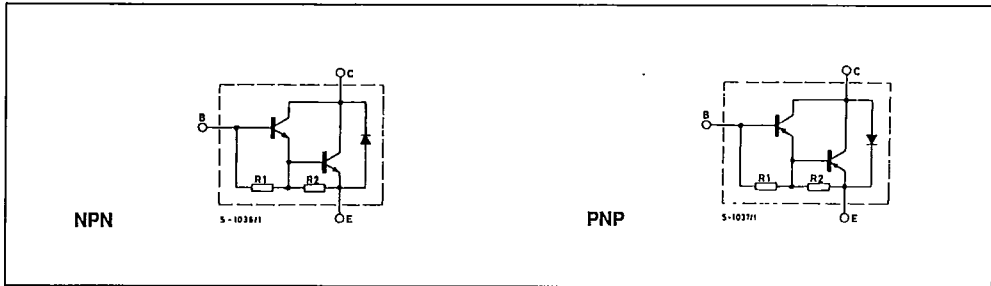
**DESCRIPTION**

The 2N6037, 2N6038 and 2N6039 are silicon epitaxial-base NPN power transistors in monolithic Darlington configuration and are mounted in Jedec TO-126 plastic package.

The complementary PNP types are the 2N6034, 2N6035 and 2N6036 respectively.



**INTERNAL SCHEMATIC DIAGRAMS**



**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	PNP			Unit
		2N6034 2N6037	2N6035 2N6038	2N6036 2N6039	
V <sub>CB0</sub>	Collector-base Voltage (I <sub>E</sub> = 0)	40	60	80	V
V <sub>CE0</sub>	Collector-emitter Voltage (I <sub>B</sub> = 0)	40	60	80	V
V <sub>EB0</sub>	Emitter-base Voltage (I <sub>C</sub> = 0)	5			V
I <sub>C</sub>	Collector Current	4			A
I <sub>CM</sub>	Collector Peak Current	8			A
I <sub>B</sub>	Base Current	100			mA
P <sub>tot</sub>	Total Power Dissipation at T <sub>case</sub> ≤ 25°C	40			W
T <sub>stg</sub>	Storage Temperature	- 65 to 150			°C
T <sub>j</sub>	Junction Temperature	150			°C

## THERMAL DATA

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$R_{th\ j-case}$	Thermal Resistance Junction-case	Max	3.12	°C/W
$R_{th\ j-amb}$	Thermal Resistance Junction-ambient	Max	83.3	°C/W

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

T-33-29

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CBO}$	Collector Cutoff Current ( $I_E = 0$ )	for 2N6034/37 $V_{CE} = 40V$ for 2N6035/38 $V_{CE} = 60V$ for 2N6036/39 $V_{CE} = 80V$			100 100 100	$\mu A$ $\mu A$ $\mu A$
$I_{CEO}$	Collector Cutoff Current ( $I_B = 0$ )	for 2N6034/37 $V_{CE} = 40V$ for 2N6035/38 $V_{CE} = 60V$ for 2N6036/39 $V_{CE} = 80V$			100 100 100	$\mu A$ $\mu A$ $\mu A$
$I_{CEX}$	Collector Cutoff Current ( $V_{EB} = 1.5V$ )	for 2N6034/37 $V_{CE} = 40V$ for 2N6035/38 $V_{CE} = 60V$ for 2N6036/39 $V_{CE} = 80V$ $T_{case} = 125^{\circ}C$ for 2N6034/37 $V_{CE} = 40V$ for 2N6035/38 $V_{CE} = 60V$ for 2N6036/39 $V_{CE} = 80V$			0.1 0.1 0.1 0.5 0.5 0.5	$mA$ $mA$ $mA$ $mA$ $mA$ $mA$
$I_{EBO}$	Emitter Cutoff Current ( $I_C = 0$ )	$V_{EB} = 5V$			2	$mA$
$V_{CEO(sus)}^*$	Collector-emitter Sustaining Voltage ( $I_B = 0$ )	$I_C = 100mA$ for 2N6034/37 for 2N6035/38 for 2N6036/39	40 60 80			$V$ $V$ $V$
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 2A$ $I_B = 8mA$ $I_C = 4A$ $I_B = 40mA$			2 3	$V$ $V$
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	$I_C = 4A$ $I_B = 40mA$			4	$V$
$V_{BE}^*$	Base-emitter Voltage	$I_C = 2A$ $V_{CE} = 3V$			2.8	$V$
$h_{FE}^*$	DC Current Gain	$I_C = 0.5A$ $V_{CE} = 3V$ $I_C = 2A$ $V_{CE} = 3V$ $I_C = 4A$ $V_{CE} = 3V$	500 750 100		15000	
$h_{fe}$	Small Signal Current Gain	$I_C = 0.75A$ $V_{CE} = 10V$ $f = 1MHz$	25			
$C_{CBO}$	Collector-base Capacitance	$V_{CB} = 10V$ $I_E = 0$ $f = 1MHz$			(*)100	

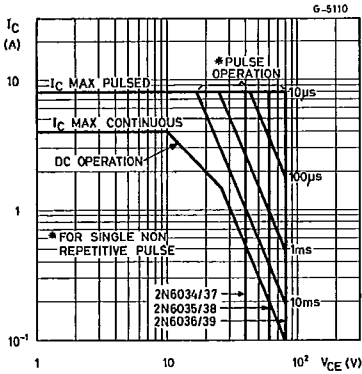
\* Pulsed : pulse duration = 300 $\mu s$ , duty cycle  $\leq 1.5\%$ .

(\*) for PNP types 200pF.

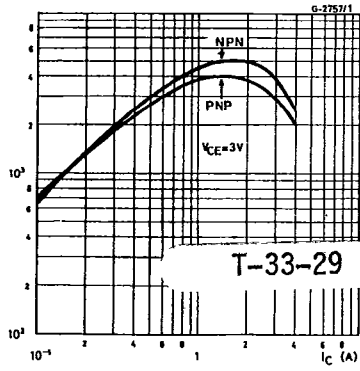
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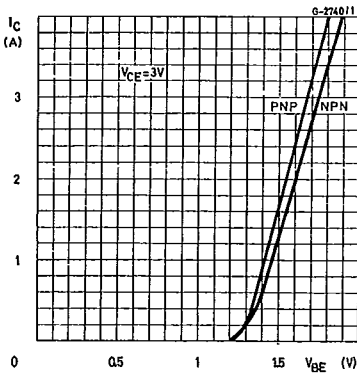
Safe Operating Areas.



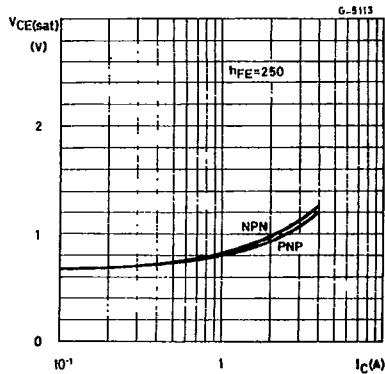
DC Current Gain.



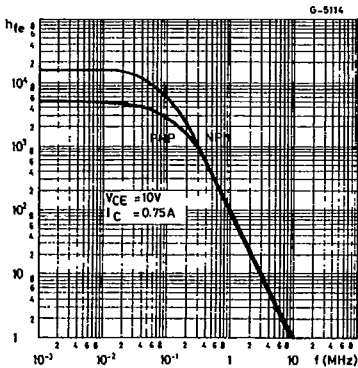
DC Transconductance



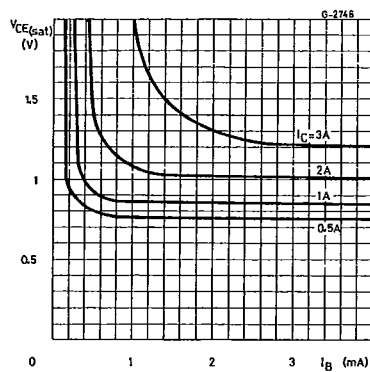
Collector-emitter Saturation Vol-



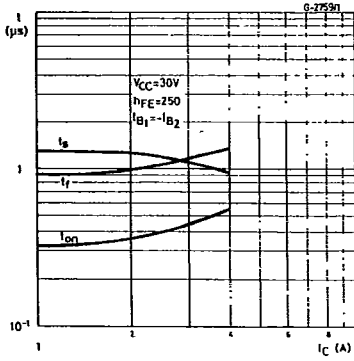
Small Signal Current Gain.



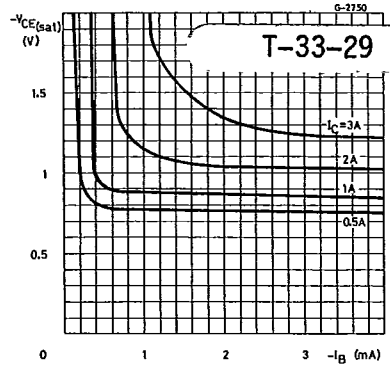
Collector-emitter Saturation Voltage (NPN).



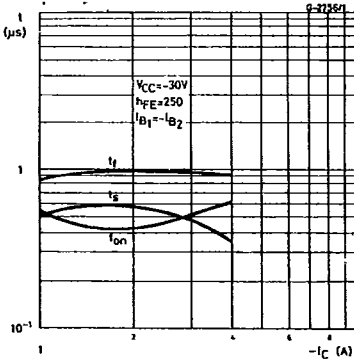
Saturated Switching Characteristics (NPN).



Collector-emitter Saturation Voltage (PNP).



Saturated Switching Characteristics (PNP).



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