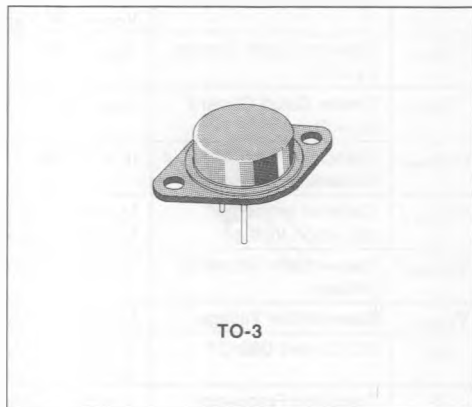


COMPLEMENTARY POWER DARLINGTON

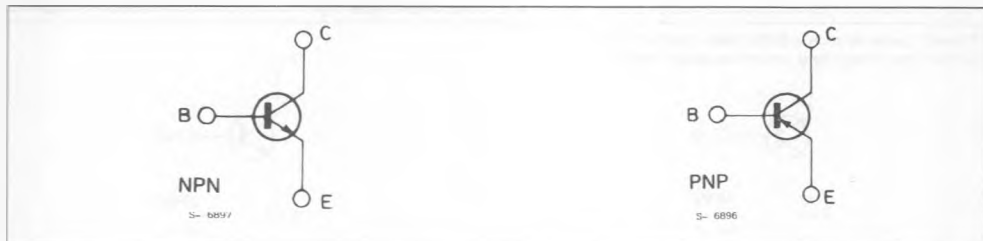
DESCRIPTION

The 2N6053 is a silicon epitaxial base PNP transistor in monolithic Darlington configuration and are mounted in Jedec TO-3 metal case. They are intended for use in power linear and switching applications.

The complementary NPN type is the 2N6055.



INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	PNP NPN	Value	Unit
			2N6053 2N6055	
V_{CBO}	Collector-base Voltage ($I_E = 0$)		60	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)		60	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)		5	V
I_C	Collector Current		8	A
I_{CM}	Collector Peak Current		16	A
I_B	Base Current		120	mA
P_{tot}	Total Dissipation at $T_C < 25^\circ\text{C}$		100	W
T_{stg}	Storage Temperature		- 65 to 200	$^\circ\text{C}$
T_J	Max. Operating Junction Temperature		200	$^\circ\text{C}$

For PNP type voltage and current values are negative.

THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case	max	1.75	$^{\circ}\text{C}/\text{W}$
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ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEX}	Collector Cutoff Current	$V_{CE} = 60\text{V}$ $V_{BE} = -1.5\text{V}$ $V_{CE} = 60\text{V}$ $V_{BE} = -1.5\text{V}$ $T_c = 150^{\circ}\text{C}$			500 5	μA mA
I_{CEO}	Collector Cutoff Current ($I_B = 0$)	$V_{CE} = 30\text{V}$			0.5	mA
I_{EBO}	Emitter Cutoff Current ($I_C = 0$)	$V_{EB} = 5\text{V}$			2	mA
$V_{CE(sus)}^*$	Collector-emitter Sustaining Voltage	$I_C = 100\text{mA}$	60			V
$V_{CE(sat)}^*$	Collector-emitter saturation Voltage	$I_C = 4\text{A}$ $I_B = 16\text{mA}$ $I_C = 8\text{A}$ $I_B = 80\text{mA}$			2 3	V V
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	$I_C = 8\text{A}$ $I_B = 80\text{mA}$			4	V
$V_{BE(on)}^*$	Base-emitter Voltage	$I_C = 4\text{A}$ $V_{CE} = 3\text{V}$			2.8	V
h_{FE}^*	DC Current Gain	$I_C = 4\text{A}$ $V_{CE} = 3\text{V}$ $I_C = 8\text{A}$ $V_{CE} = 3\text{V}$	750 100		18K	
f_T	Transition Frequency	$I_C = 3\text{A}$ $V_{CE} = 3\text{V}$ $f = 1\text{MHz}$	4			MHz
C_{cbo}	Collector-base Capacitance	$V_{CB} = 10\text{V}$ $I_E = 0$ $f = 1\text{MHz}$ for NPN Type for PNP Type			200 300	pF pF

* Pulsed : pulse duration = 300 μs , duty cycle = 1.5%.
For PNP type voltage and current values are negative.