



**2N6053 PNP**  
**2N6055 NPN**

## COMPLEMENTARY POWER DARLINGTON

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

### ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit
$V_{CEO}$	#Collector-Emitter Voltage	$I_B=0$	2N6053 2N6055 60	V
$V_{CBO}$	Collector-Base Voltage	$I_E=0$	2N6053 2N6055 60	V
$V_{EBO}$	Emitter-Base Voltage		2N6053 2N6055 5.0	V
$I_C$	Collector Current	Continuous	2N6053 2N6055 8.0	A
		Peak	2N6053 2N6055 16	
$I_B$	Base Current		2N6053 2N6055 120	mA
$P_{TOT}$	Total Dissipation	@ $T_C = 25^\circ$	2N6053 2N6055 100	Watts
$T_J$	Junction Temperature		2N6053 2N6055 200	$^\circ C$
$T_S$	Storage Temperature		2N6053 2N6055 -65 to +200	$^\circ C$

### THERMAL CHARACTERISTICS

Symbol	Ratings		Value	Unit
$R_{thJC}$	Thermal Resistance, Junction to Case		2N6053 2N6055 1.75	$^\circ C/W$

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**ELECTRICAL CHARACTERISTICS**

TC=25°C unless otherwise noted

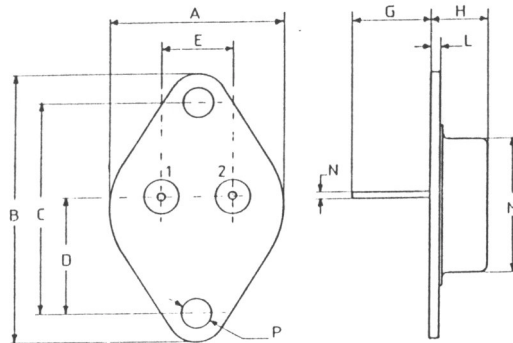
Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit	
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage (1)	$I_C=100\text{ mA}$	<b>2N6053</b> <b>2N6055</b>	60	-	-	V
$I_{CEO}$	Collector-Emitter Current	$V_{CE}=30\text{ V}$	<b>2N6053</b> <b>2N6055</b>	-	-	0.5	mA
$I_{CEX}$	Collector-Cutoff Current	$V_{CE}=60\text{ V}, V_{BE}=-1.5\text{ V}$	<b>2N6053</b> <b>2N6055</b>	-	-	500	$\mu\text{A}$
		$V_{CE}=60\text{ V}, V_{BE}=-1.5\text{ V}$ $T_C=150^\circ\text{C}$	<b>2N6053</b> <b>2N6055</b>	-	-	5	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5.0\text{ V}$	<b>2N6053</b> <b>2N6055</b>	-	-	2.0	mA
$h_{FE}$	DC Current Gain (*)	$I_C=4.0\text{ A}, V_{CE}=3.0\text{ V}$	<b>2N6053</b> <b>2N6055</b>	750	-	18K	-
		$I_C=8.0\text{ A}, V_{CE}=3.0\text{ V}$		100	-	-	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	$I_C=4.0\text{ A}, I_B=16\text{ mA}$	<b>2N6053</b> <b>2N6055</b>	-	-	2.0	V
		$I_C=8.0\text{ A}, I_B=80\text{ mA}$		-	-	3.0	
$V_{BE(SAT)}$	Base-Emitter Voltage (*)	$I_C=8.0\text{ A}, I_B=80\text{ mA}$	<b>2N6053</b> <b>2N6055</b>	-	-	4.0	V
$V_{BE(on)}$	Base-Emitter Voltage	$I_C=4.0\text{ A}, V_{CE}=3.0\text{ V}$	<b>2N6053</b> <b>2N6055</b>	-	-	2.8	V
$f_T$	Transition Frequency	$V_{CE}=3.0\text{ Vdc}, I_C=3.0\text{ Adc}, f=1\text{ MHz}$	<b>2N6053</b> <b>2N6055</b>	4	-	-	MHz
$C_{cbo}$	Collector-base Capacitance	$V_{CB}=10\text{ V}, I_E=0, f=1\text{ MHz}$	<b>2N6053</b>	-	-	300	pF
			<b>2N6055</b>	-	-	200	

(\*) Pulse Width  $\approx 300\ \mu\text{s}$ , Duty Cycle  $\angle 2.0\%$   
**For PNP types, values are negative**

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**MECHANICAL DATA CASE TO-3**

DIMENSIONS		
	mm	inches
A	25,51	1,004
B	38,93	1,53
C	30,12	1,18
D	17,25	0,68
E	10,89	0,43
G	11,62	0,46
H	8,54	0,34
L	1,55	0,6
M	19,47	0,77
N	1	0,04
P	4,06	0,16



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector

*Information furnished is believed to be accurate and reliable. However, CS assumes no responsibility for the consequences of use of such information nor for errors that could appear.  
 Data are subject to change without notice.*