

MICRO ELECTRONICS

2N/PN3053 2N/PN4037

COMPLEMENTARY
SILICON
TRANSISTORS

2N/PN3053(NPN) & 2N/PN4037(PNP) are complementary silicon planar epitaxial transistors for use in AF medium power drivers and outputs, as well as for switching applications.

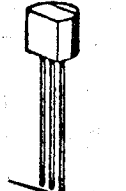
TO-39



C E B

2N3053
2N4037

TO-92A



EBC

PN3053
PN4037

ABSOLUTE MAXIMUM RATINGS

For p-n-p devices, voltage and current values are negative.

Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Collector Current
Total Power Dissipation @ $T_A \leq 25^\circ\text{C}$

Operating Junction & Storage Temperature

VCBO
VCEO
VEBO
IC
Ptot

2N/PN3053

2N/PN4037

60V

60V

40V

40V

5V

7V

0.7A

1A

1W (2N3053/2N4037)

0.625W (PN3053/PN4037)

-65 to +200°C (2N3053/2N4037)

-55 to +150°C (PN3053/PN4037)

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

PARAMETER	SYMBOL	2N/PN3053		2N/PN4037		UNIT	TEST CONDITIONS
		MIN	MAX	MIN	MAX		
Collector-Base Breakdown Voltage	BV _{CB0}	60		60		V	I _C =0.1mA I _E =0
Collector-Emitter Breakdown Voltage	LV _{CER} *	50		60		V	I _C =100mA R _{BE} =10Ω
					60		V
Collector-Emitter Breakdown Voltage	LV _{CEV} *			60		V	I _C =100mA V _{EB} =1.5V
Collector-Emitter Breakdown Voltage	LV _{CEO} *	40		40		V	I _C =100mA I _B =0
Emitter-Base Breakdown Voltage	BV _{EB0}	5		7		V	I _E =0.1mA I _C =0
Collector Cutoff Current	I _{CEV}		0.25			μA	V _{CE} =30V V _{EB} =1.5V
Collector Cutoff Current	I _{CB0}			0.25		μA	V _{CB} =60V I _E =0
Collector Cutoff Current	I _{CEO}			5		μA	V _{CE} =30V I _B =0
Emitter Cutoff Current	I _{EB0}	0.25				μA	V _{EB} =4V I _C =0
						1	μA
Collector-Emitter Saturation Voltage	V _{CE(sat)} *	1.4		1.4		V	I _C =150mA I _B =15mA
Base-Emitter Saturation Voltage	V _{BE(sat)} *	1.7				V	I _C =150mA I _B =15mA
D.C. Current Gain	H _{FE} *			15			I _C =1mA V _{CE} =10V
		50	250	50	250		I _C =150mA V _{CE} =10V
		25					I _C =150mA V _{CE} =2.5V

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PARAMETER	SYMBOL	2N/PN3053		2N/PN4037		UNIT	TEST CONDITIONS
		MIN	MAX	MIN	MAX		
Current Gain-Bandwidth Product	f_T	100		60		MHz	$I_C=50\text{mA}$ $V_{CE}=10\text{V}$
Collector-Base Capacitance	C_{ob}		15		30	pF	$V_{CB}=10\text{V}$ $I_E=0$ $f=1\text{MHz}$
Emitter-Base Capacitance	C_{ib}		80		90	pF	$V_{EB}=0.5\text{V}$ $I_C=0$ $f=1\text{MHz}$

* Pulse Test : Pulse Width=0.3mS, Duty Cycle=1%

TYPICAL CHARACTERISTICS

