

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.

T0-39



C E B

2N3053
2N4037

T0-92A



E B C

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 @ $T_A \leq 25^\circ\text{C}$

V_{CB0}
 V_{CE0}
 V_{EB0}
 I_C
 P_{tot}

2N/PN3053

2N/PN4037

60V

60V

40V

40V

5V

7V

0.7A

1A

1W (2N3053/2N4037)

0.625W (PN3053/PN4037)

Operating Junction & Storage Temperature

T_j, T_{stg}

-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	V_{CB0}	60		60		V	$I_C = 0.1\text{mA}$ $I_E = 0$
Collector-Emitter Breakdown Voltage	V_{CER}^*	50				V	$I_C = 100\text{mA}$ $R_{BE} = 10\Omega$
				60		V	$I_C = 100\text{mA}$ $R_{BE} = 200\Omega$
Collector-Emitter Breakdown Voltage	V_{CEV}^*			60		V	$I_C = 100\text{mA}$ $V_{EB} = 1.5\text{V}$
Collector-Emitter Breakdown Voltage	V_{CEO}^*	40		40		V	$I_C = 100\text{mA}$ $I_B = 0$
Emitter-Base Breakdown Voltage	V_{EBO}	5		7		V	$I_E = 0.1\text{mA}$ $I_C = 0$
Collector Cutoff Current	I_{CEV}		0.25			μA	$V_{CE} = 30\text{V}$ $V_{EB} = 1.5\text{V}$
Collector Cutoff Current	I_{CBO}				0.25	μA	$V_{CB} = 60\text{V}$ $I_E = 0$
Collector Cutoff Current	I_{CEO}				5	μA	$V_{CE} = 30\text{V}$ $I_B = 0$
Emitter Cutoff Current	I_{EBO}	0.25				μA	$V_{EB} = 4\text{V}$ $I_C = 0$
				1		μA	$V_{EB} = 5\text{V}$ $I_C = 0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}^*$		1.4		1.4	V	$I_C = 150\text{mA}$ $I_B = 15\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}^*$		1.7			V	$I_C = 150\text{mA}$ $I_B = 15\text{mA}$
D.C. Current Gain	H_{FE}^*			15			$I_C = 1\text{mA}$ $V_{CE} = 10\text{V}$
		50	250	50	250		$I_C = 150\text{mA}$ $V_{CE} = 10\text{V}$
		25					$I_C = 150\text{mA}$ $V_{CE} = 2.5\text{V}$

MICRO ELECTRONICS LTD. 美科有限公司

38 Hung To Road, Kwun Tong, Kowloon, Hong Kong. Cable: Microtron, Hong Kong. Telex: 49510 Micro HX.
P.O. Box 69477, Kwun Tong. Tel: 3-430181-6 3-893363, 3-892423, 3-898224

FAX: 3-410321

- - - Continued - - -

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

