

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.

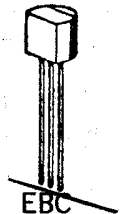
T0-39



C E B

2N3053
2N4037

T0-92A



EBC

PN3053
PN4037

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

	2N/PN3053	2N/PN4037
Collector-Base Voltage	60V	60V
Collector-Emitter Voltage	40V	40V
Emitter-Base Voltage	5V	7V
Collector Current	0.7A	1A
Total Power Dissipation @ $T_A \leq 25^\circ\text{C}$	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	BV_{CBO}	60		60		V	$I_C = 0.1\text{mA}$ $I_E = 0$
Collector-Emitter Breakdown Voltage	$LV_{CER} *$	50		60		V	$I_C = 100\text{mA}$ $R_{BE} = 10\Omega$
						60	
Collector-Emitter Breakdown Voltage	$LV_{CEV} *$			60		V	$I_C = 100\text{mA}$ $V_{EB} = 1.5\text{V}$
Collector-Emitter Breakdown Voltage	$LV_{CEO} *$	40		40		V	$I_C = 100\text{mA}$ $I_B = 0$
Emitter-Base Breakdown Voltage	BV_{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	
Collector-Emitter Saturation Voltage	$V_{CE}(\text{sat}) *$	1.4		1.4		V	$I_C = 150\text{mA}$ $I_B = 15\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE}(\text{sat}) *$	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					$I_C = 150\text{mA}$ $V_{CE} = 2.5\text{V}$

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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

