



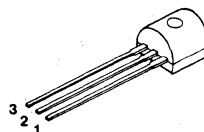
NR041(NPN) low-level signal switching transistor

features

- 40mV guaranteed V_{CE} (sat) characteristics at $I_C = 1\text{mA}$ and $I_B = 0.1\text{mA}$
- Linear collector characteristics
- 1dB typical wide-band Noise Figure
- "Epoxy B" packaging concept for excellent reliability

1 package and lead coding

TO-92



applications

- ALC device for CB microphone circuits
- Cassette circuits
- Audio signal switches
- Envelope modulators for musical equipment

PACKAGE CODE TO-92	1	2	3
E	E	B	C
F	E	C	B
H	C	B	E

2 maximum ratings

PARAMETER	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	V_{CEO}	20	V_{DC}
Collector-Base Voltage	V_{CB}	20	V_{DC}
Emitter-Base Voltage	V_{EB}	5	V_{DC}
Collector Current (continuous)	I_C (max)	30	mA_{DC}
Power Dissipation ($T_A = 25^\circ\text{C}$)	P_D	0.6	W
Power Dissipation ($T_C = 25^\circ\text{C}$)	P_D	1.0	W
Thermal Resistance	θ_{JA}	208	$^\circ\text{C/W}$
	θ_{JC}	125	$^\circ\text{C/W}$
Temperature, Junction and Storage	T_j, T_{stg}	-55 to +150	$^\circ\text{C}$

3 ordering information

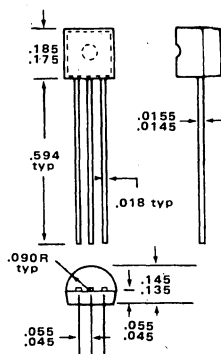
NR041X

PACKAGE/LEAD CODE
refer to 1

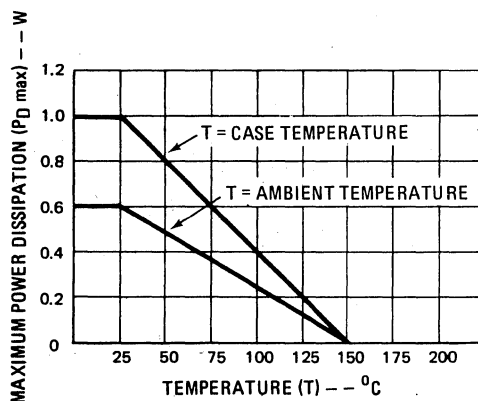
4 electrical characteristics $T_C = 25^\circ\text{C}$

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{CEO}	Collector-Emitter Sustaining Voltage	$I_C = 1\text{ mA}$	20			V
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = 100\mu\text{A}$	20			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = 10\mu\text{A}$	5			V
I_{CEO}	Collector-Emitter Leakage Current	$V_{CE} = 15\text{V}$			1	μA
I_{CBO}	Collector-Base Leakage Current	$V_{CB} = 15\text{V}$			50	nA
I_{EBO}	Emitter-Base Leakage Current	$V_{EB} = 4\text{V}$			0.1	μA
$V_{BE}(\text{sat})$	Base-Emitter Saturation Voltage	$I_C = 1\text{ mA}, I_B = 0.1\text{ mA}$		0.65	0.8	V
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C = 1\text{ mA}, I_B = 0.1\text{ mA}$		25	40	mV
C_{ob}	Collector Output Capacitance	$V_{CB} = 10\text{V}, f = 1\text{ MHz}$		2		pF
NF	Noise Figure	$I_C = 10\mu\text{A}, V_{CE} = 5\text{V}$ $R_S = 10\text{K}, BW = 15.7\text{ KHz}$		1		dB

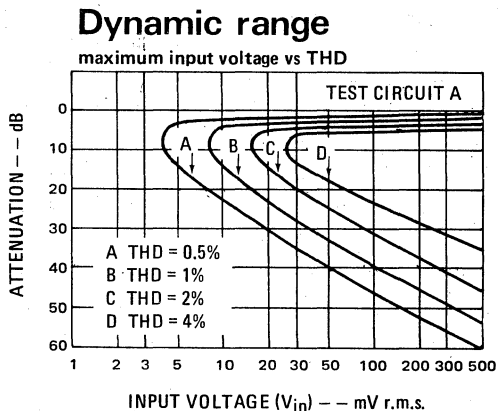
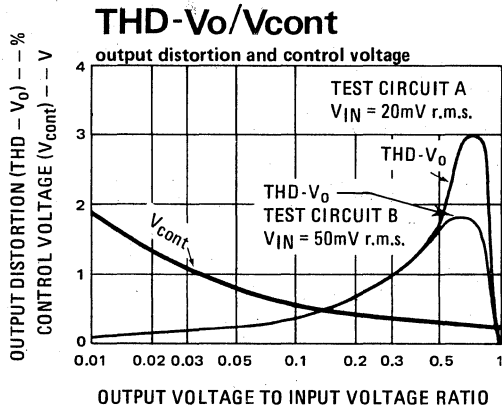
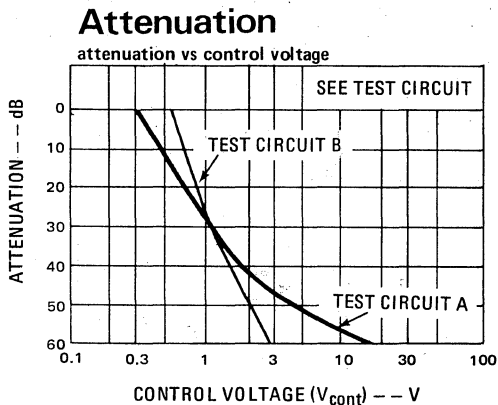
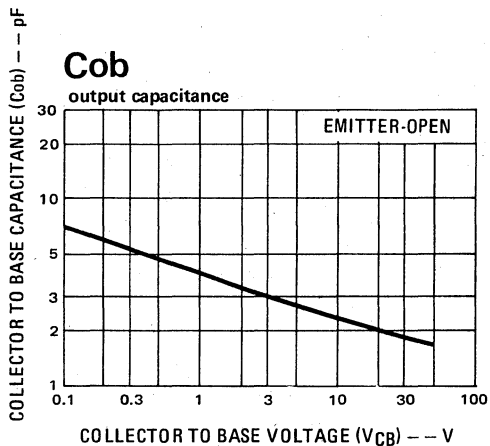
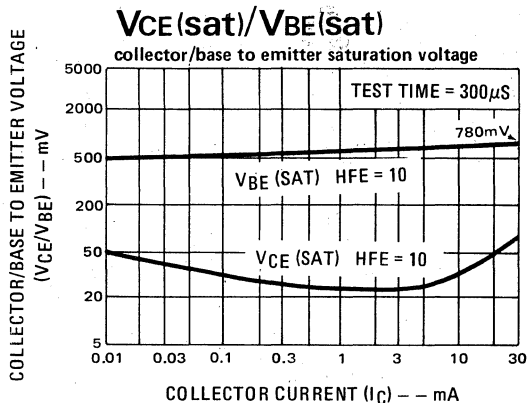
5 physical dimensions



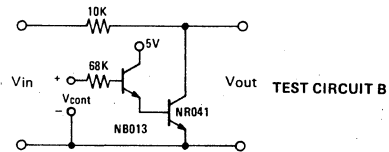
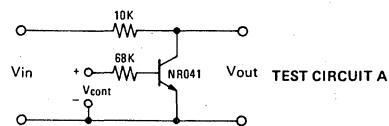
6 max power dissipation



7 typical performance characteristics



Test circuits



NOTE: ATTENUATION = $20 \log_{10} \frac{V_{out}}{V_{in}}$

