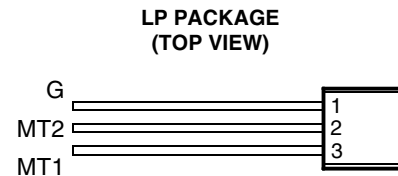
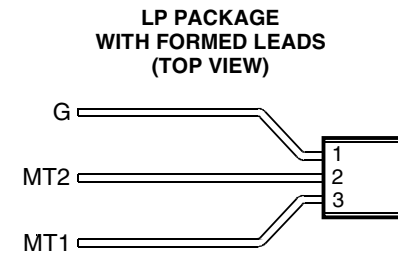


- 1.5 A RMS
- Glass Passivated Wafer
- 400 V to 600 V Off-State Voltage
- Max  $I_{GT}$  of 10 mA
- Package Options

PACKAGE	PACKING	PART # SUFFIX
LP	Bulk	(None)
LP with fomed leads	Tape and Reel	R



MDC2AA



MDC2AB

**absolute maximum ratings over operating case temperature (unless otherwise noted)**

RATING		SYMBOL	VALUE	UNIT
Repetitive peak off-state voltage (see Note 1)	TICP206D	$V_{DRM}$	400	V
	TICP206M		600	
Full-cycle RMS on-state current at (or below) 85°C case temperature (see Note 2)		$I_{T(RMS)}$	1.5	A
Peak on-state surge current full-sine-wave at (or below) 25°C case temperature (see Note 3)		$I_{TSM}$	10	A
Peak on-state surge current half-sine-wave at (or below) 25°C case temperature (see Note 4)		$I_{TSM}$	12	A
Peak gate current		$I_{GM}$	±0.2	A
Average gate power dissipation at (or below) 85°C case temperature (see Note 5)		$P_{G(AV)}$	0.3	W
Operating case temperature range		$T_C$	-40 to +110	°C
Storage temperature range		$T_{stg}$	-40 to +125	°C
Lead temperature 1.6 mm from case for 10 seconds		$T_L$	230	°C

- NOTES: 1. These values apply bidirectionally for any value of resistance between the gate and Main Terminal 1.  
 2. This value applies for 50-Hz full-sine-wave operation with resistive load. Above 85°C derate linearly to 110°C case temperature at the rate of 60 mA/°C.  
 3. This value applies for one 50-Hz full-sine-wave when the device is operating at (or below) the rated value of on-state current. Surge may be repeated after the device has returned to original thermal equilibrium. During the surge, gate control may be lost.  
 4. This value applies for one 50-Hz half-sine-wave when the device is operating at (or below) the rated value of on-state current. Surge may be repeated after the device has returned to original thermal equilibrium. During the surge, gate control may be lost.  
 5. This value applies for a maximum averaging time of 20 ms.

**electrical characteristics at 25°C case temperature (unless otherwise noted)**

PARAMETER	TEST CONDITIONS			MIN	TYP	MAX	UNIT
$I_{DRM}$ Repetitive peak off-state current	$V_D = \text{rated } V_{DRM}$	$I_G = 0$				±20	μA
$I_{GT}$ Gate trigger current	$V_{supply} = +12 \text{ V} \dagger$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu\text{s}$			8	mA
	$V_{supply} = +12 \text{ V} \dagger$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu\text{s}$			-8	
	$V_{supply} = -12 \text{ V} \dagger$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu\text{s}$			-8	
	$V_{supply} = -12 \text{ V} \dagger$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu\text{s}$			10	
$V_{GT}$ Gate trigger voltage	$V_{supply} = +12 \text{ V} \dagger$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu\text{s}$			2.5	V
	$V_{supply} = +12 \text{ V} \dagger$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu\text{s}$			-2.5	
	$V_{supply} = -12 \text{ V} \dagger$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu\text{s}$			-2.5	
	$V_{supply} = -12 \text{ V} \dagger$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu\text{s}$			2.5	

† All voltages are with respect to Main Terminal 1.

**PRODUCT INFORMATION**

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electrical characteristics at 25°C case temperature (unless otherwise noted) (continued)

PARAMETER	TEST CONDITIONS			MIN	TYP	MAX	UNIT
$V_T$ On-state voltage	$I_T = \pm 1$ A	$I_G = 50$ mA	(see Note 6)			$\pm 2.2$	V
$I_H$ Holding current	$V_{supply} = +12$ V†	$I_G = 0$	Init' $I_{TM} = 100$ mA			30	mA
	$V_{supply} = -12$ V†	$I_G = 0$	Init' $I_{TM} = -100$ mA			-30	
$I_L$ Latching current	$V_{supply} = +12$ V†	(see Note 7)				40	mA
	$V_{supply} = -12$ V†					-40	

† All voltages are with respect to Main Terminal 1.

NOTES: 6. This parameter must be measured using pulse techniques,  $t_p \leq 1$  ms, duty cycle  $\leq 2$  %. Voltage-sensing contacts separate from the current carrying contacts are located within 3.2 mm from the device body.

7. The triacs are triggered by a 15-V (open circuit amplitude) pulse supplied by a generator with the following characteristics:  
 $R_G = 100 \Omega$ ,  $t_{p(g)} = 20 \mu s$ ,  $t_r \leq 15$  ns,  $f = 1$  kHz.

**TYPICAL CHARACTERISTICS**

**GATE TRIGGER CURRENT  
vs  
TEMPERATURE**

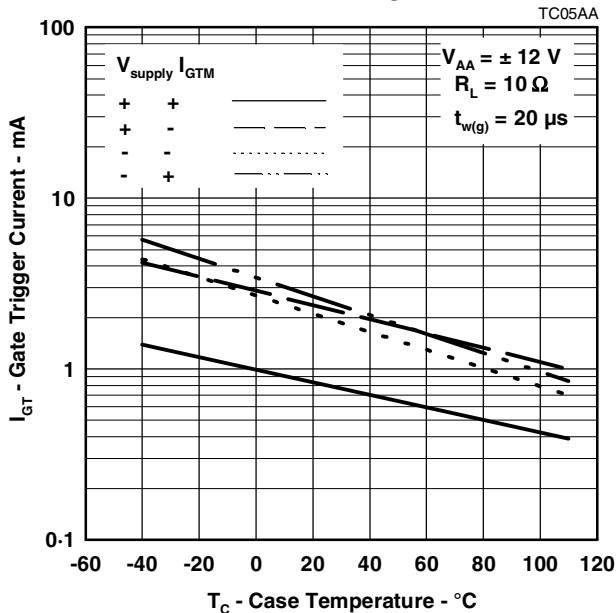


Figure 1.

**GATE TRIGGER VOLTAGE  
vs  
TEMPERATURE**

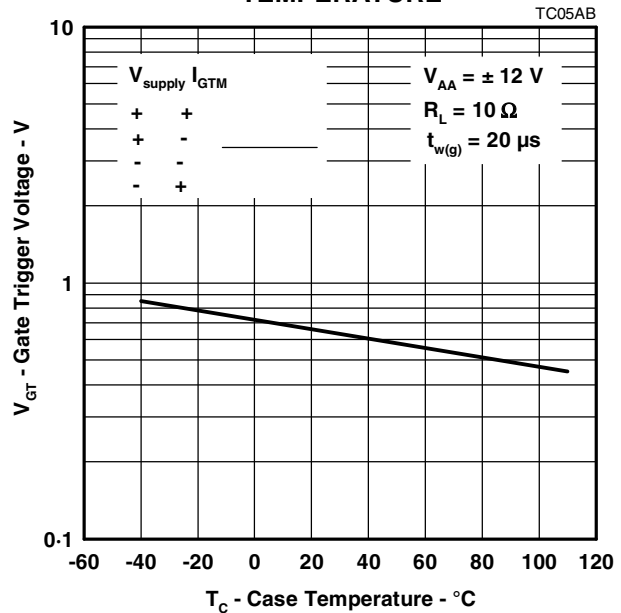


Figure 2.

**PRODUCT INFORMATION**

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TYPICAL CHARACTERISTICS

HOLDING CURRENT  
vs  
CASE TEMPERATURE

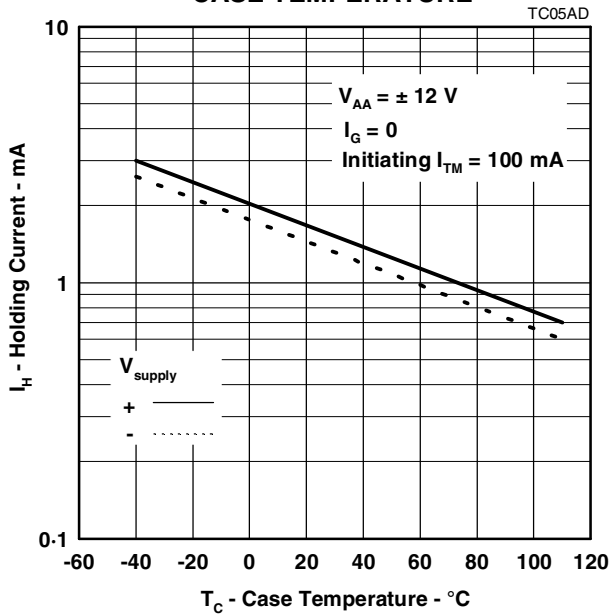


Figure 3.

LATCHING CURRENT  
vs  
CASE TEMPERATURE

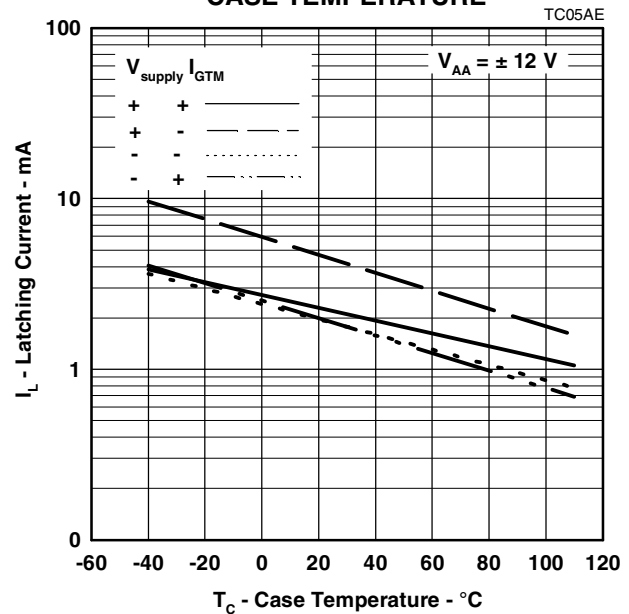


Figure 4.

**PRODUCT INFORMATION**

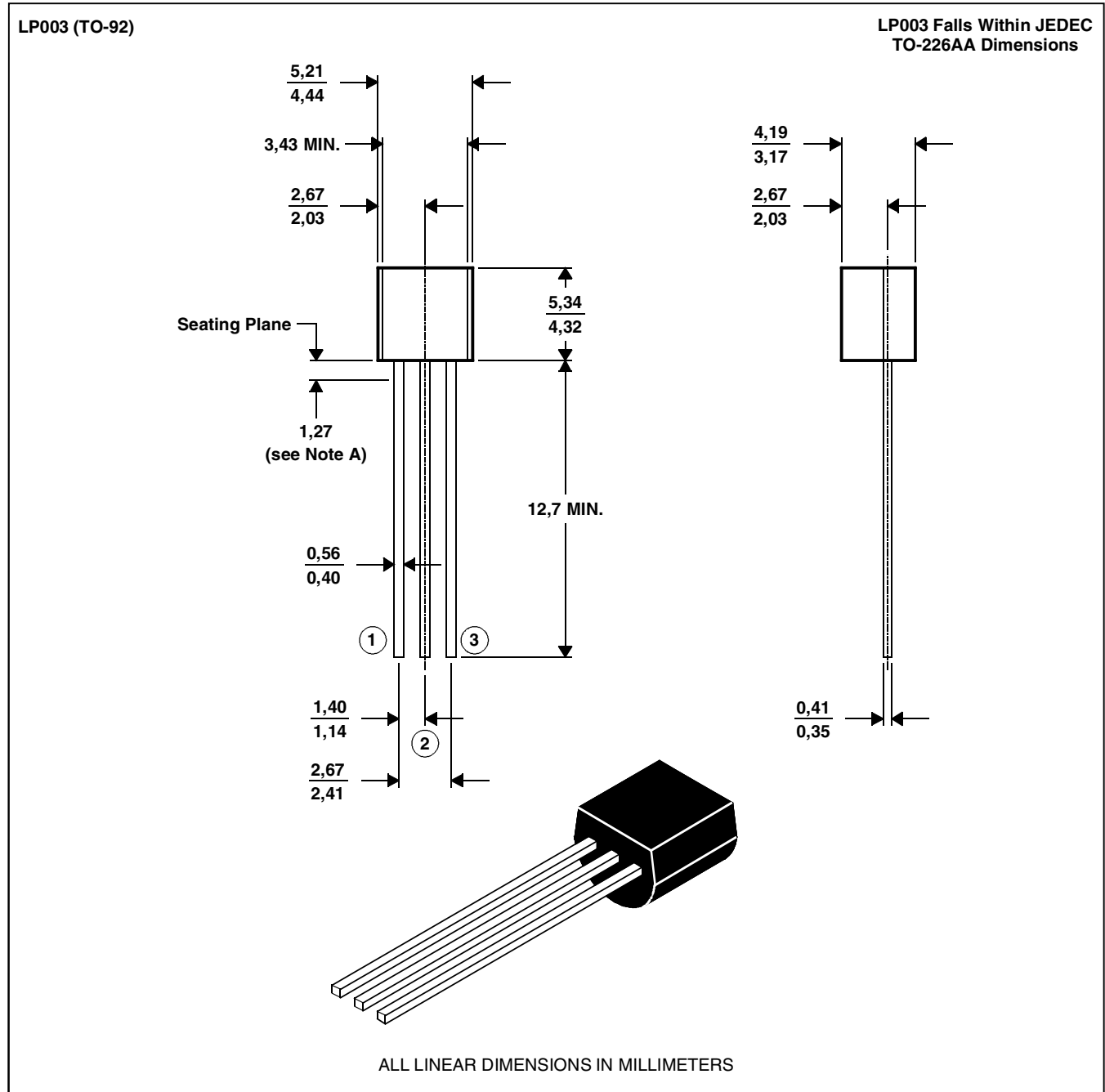
MARCH 1988 - REVISED SEPTEMBER 2002  
Specifications are subject to change without notice.

**MECHANICAL DATA**

**LP003 (TO-92)**

**3-pin cylindrical plastic package**

This single-in-line package consists of a circuit mounted on a lead frame and encapsulated within a plastic compound. The compound will withstand soldering temperature with no deformation, and circuit performance characteristics will remain stable when operated in high humidity conditions. Leads require no additional cleaning or processing when used in soldered assembly.



NOTE A: Lead dimensions are not controlled in this area.

MDXXAX

**PRODUCT INFORMATION**

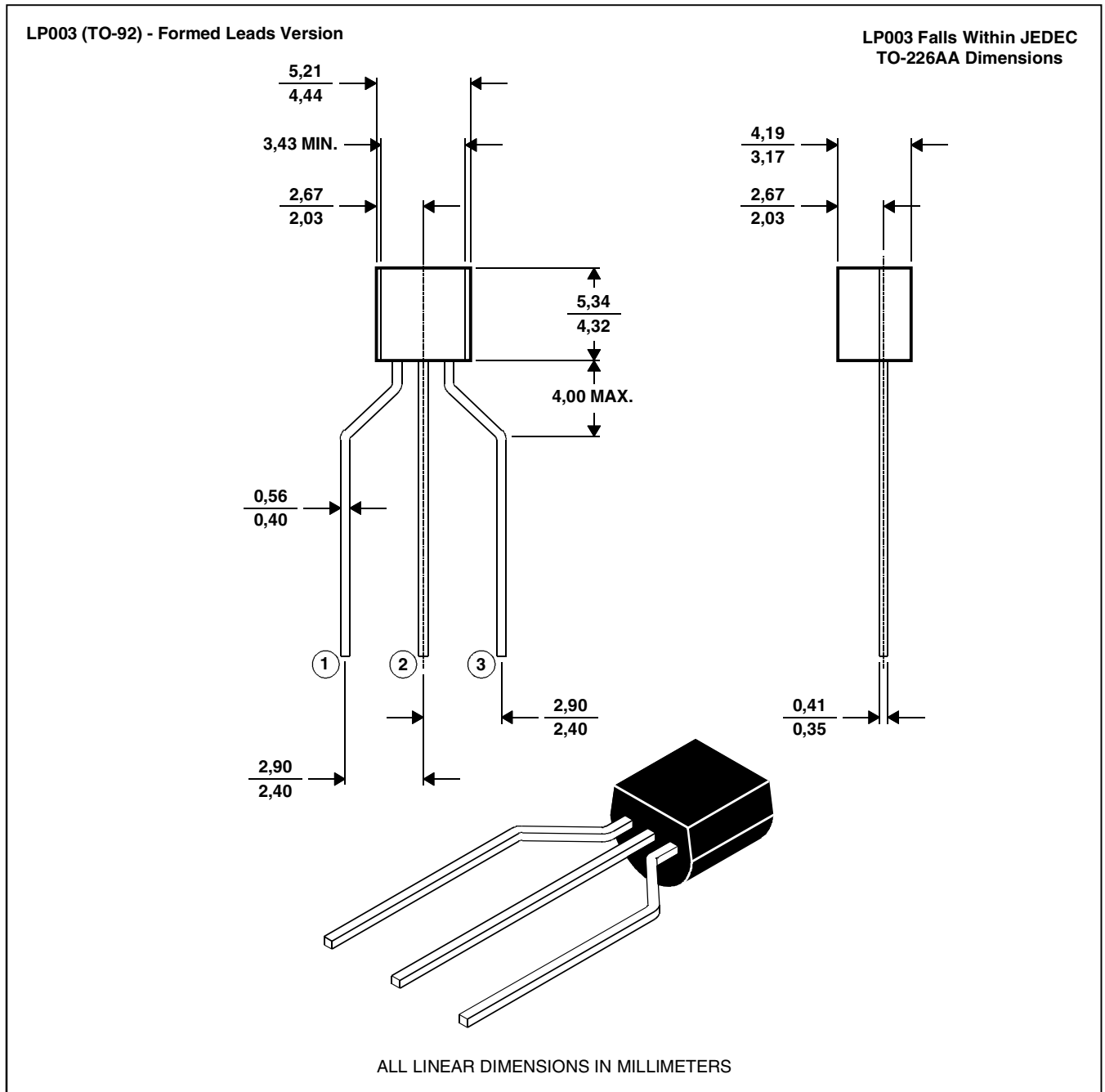
MARCH 1988 - REVISED SEPTEMBER 2002  
Specifications are subject to change without notice.

**MECHANICAL DATA**

**LP003 (TO-92)**

**3-pin cylindrical plastic package**

This single-in-line package consists of a circuit mounted on a lead frame and encapsulated within a plastic compound. The compound will withstand soldering temperature with no deformation, and circuit performance characteristics will remain stable when operated in high humidity conditions. Leads require no additional cleaning or processing when used in soldered assembly.



MDXXAR

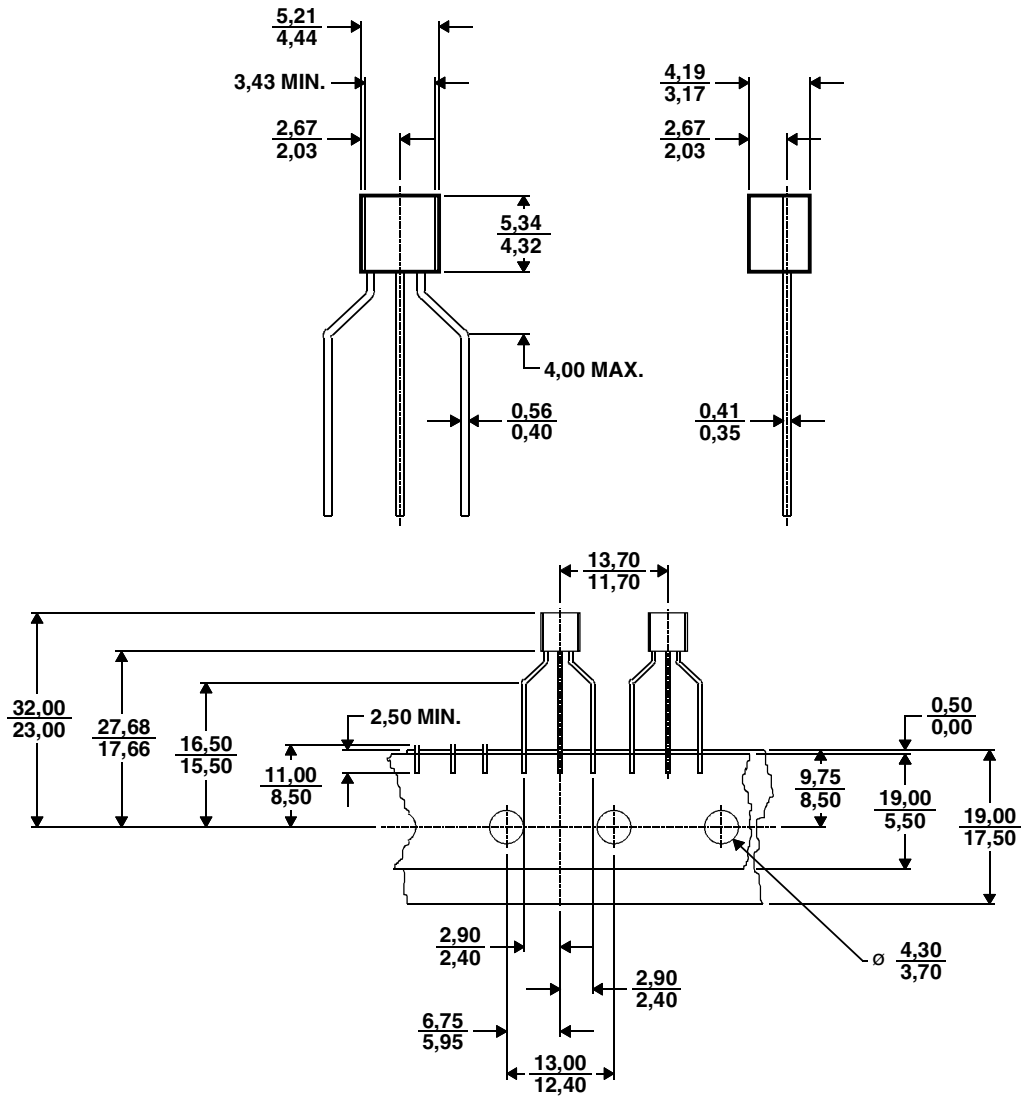
**PRODUCT INFORMATION**

MARCH 1988 - REVISED SEPTEMBER 2002  
Specifications are subject to change without notice.

**MECHANICAL DATA**

**LPR**  
**tape dimensions**

LP Package (TO-92) Tape (Formed Lead Version)



ALL LINEAR DIMENSIONS IN MILLIMETERS

MDXXAS

**PRODUCT INFORMATION**

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