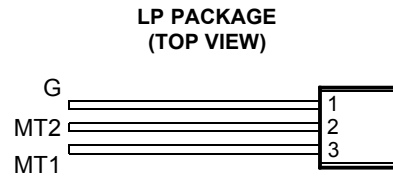
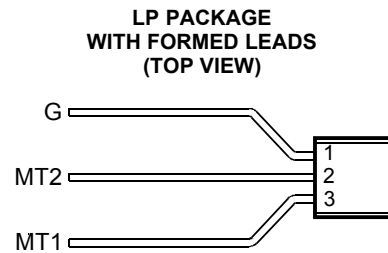


- 1.5 A RMS
- Glass Passivated Wafer
- 400 V to 600 V Off-State Voltage
- Max  $I_{GT}$  of 10 mA
- Package Options

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 (see Note 3)		$I_{TSM}$	10	A
Peak on-state surge current half-sine-wave (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
$I_{GTM}$ Peak gate trigger current	$V_{supply} = +12 V†$ $R_L = 10 \Omega$ $t_{p(g)} > 20 \mu s$			8	mA
	$V_{supply} = +12 V†$ $R_L = 10 \Omega$ $t_{p(g)} > 20 \mu s$			-8	
	$V_{supply} = -12 V†$ $R_L = 10 \Omega$ $t_{p(g)} > 20 \mu s$			-8	
	$V_{supply} = -12 V†$ $R_L = 10 \Omega$ $t_{p(g)} > 20 \mu s$			10	
$V_{GTM}$ Peak gate trigger voltage	$V_{supply} = +12 V†$ $R_L = 10 \Omega$ $t_{p(g)} > 20 \mu s$			2.5	V
	$V_{supply} = +12 V†$ $R_L = 10 \Omega$ $t_{p(g)} > 20 \mu s$			-2.5	
	$V_{supply} = -12 V†$ $R_L = 10 \Omega$ $t_{p(g)} > 20 \mu s$			-2.5	
	$V_{supply} = -12 V†$ $R_L = 10 \Omega$ $t_{p(g)} > 20 \mu s$			2.5	

† All voltages are with respect to Main Terminal 1.

## PRODUCT INFORMATION

Information is current as of publication date. Products conform to specifications in accordance with the terms of Power Innovations standard warranty. Production processing does not necessarily include testing of all parameters.

# TICP206 SERIES SILICON TRIACS

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

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

† All voltages are with respect to Main Terminal 1.

NOTES: 6. This parameter must be measured using pulse techniques,  $t_p \leq 1 \text{ ms}$ , 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:  
 $R_G = 100 \Omega$ ,  $t_{p(g)} = 20 \mu\text{s}$ ,  $t_r \leq 15 \text{ ns}$ ,  $f = 1 \text{ kHz}$ .

## TYPICAL CHARACTERISTICS

**GATE TRIGGER CURRENT  
vs  
TEMPERATURE**

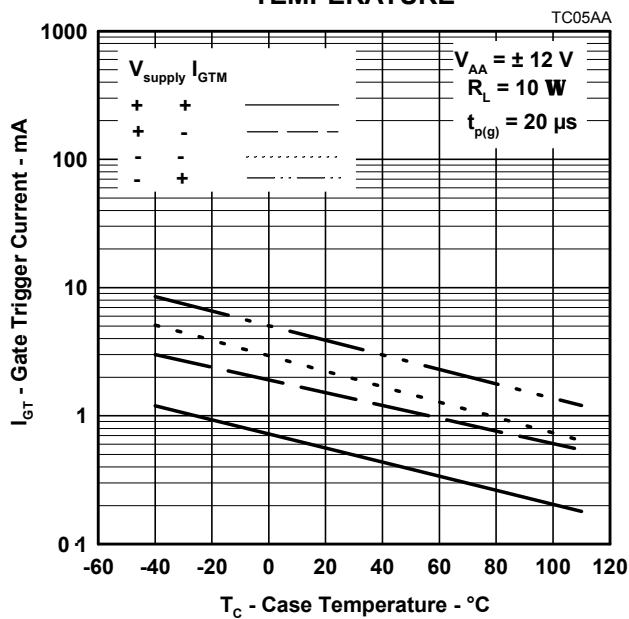


Figure 1.

**GATE TRIGGER VOLTAGE  
vs  
TEMPERATURE**

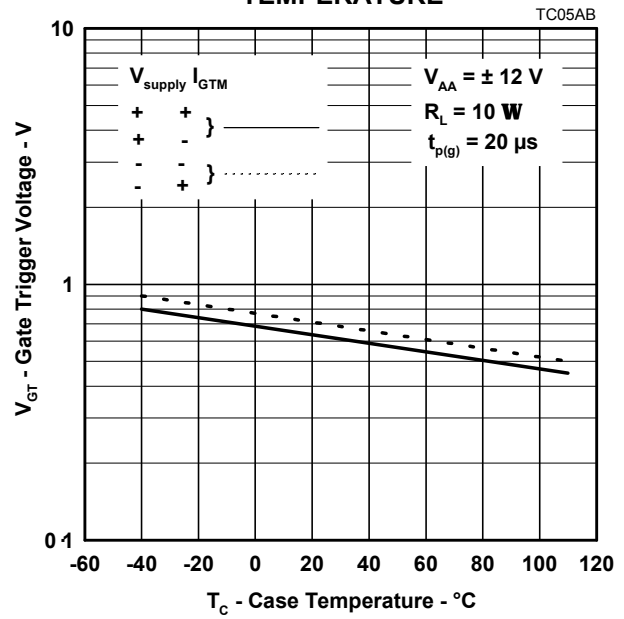


Figure 2.

## PRODUCT INFORMATION

TYPICAL CHARACTERISTICS

HOLDING CURRENT  
VS  
CASE TEMPERATURE

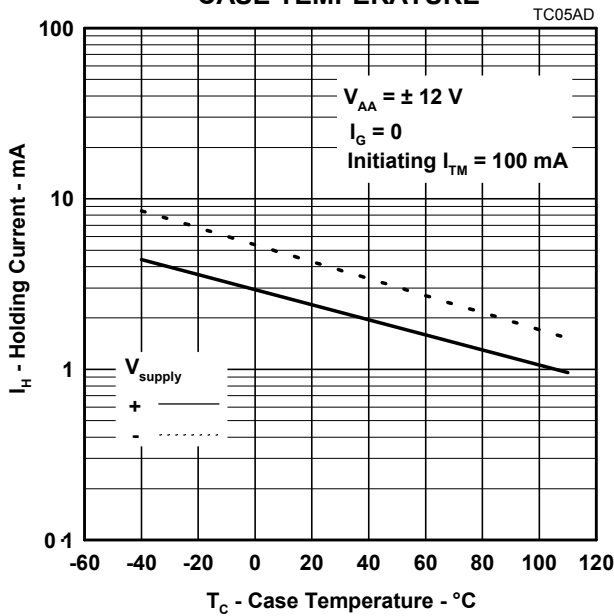


Figure 3.

GATE FORWARD VOLTAGE  
VS  
GATE FORWARD CURRENT

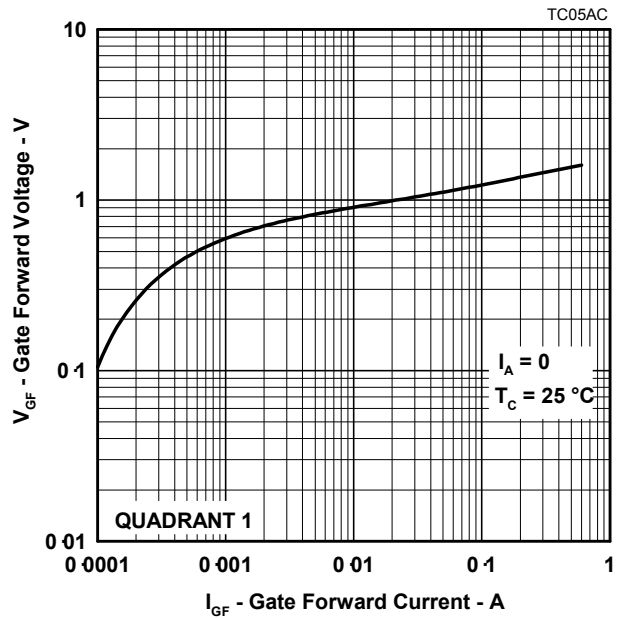


Figure 4.

LATCHING CURRENT  
VS

CASE TEMPERATURE

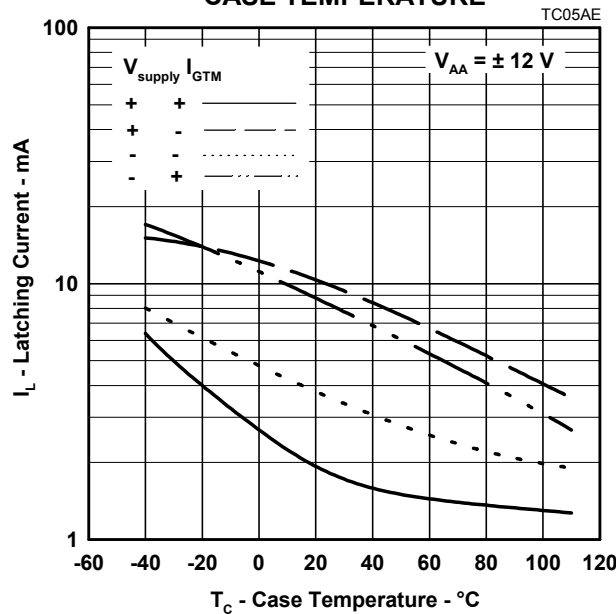


Figure 5.

# TICP206 SERIES SILICON TRIACS

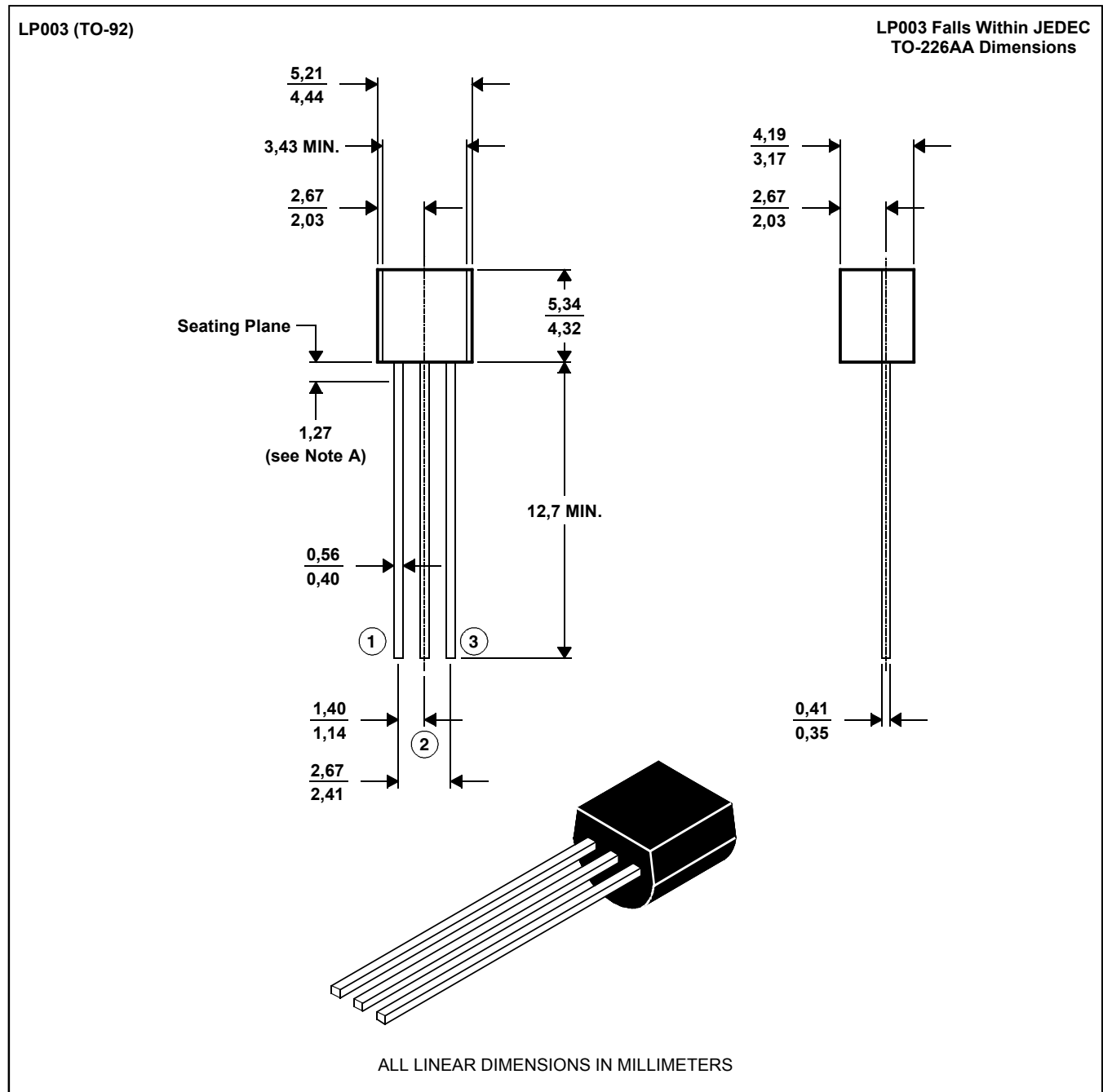
MARCH 1988 - REVISED MARCH 1997

## 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

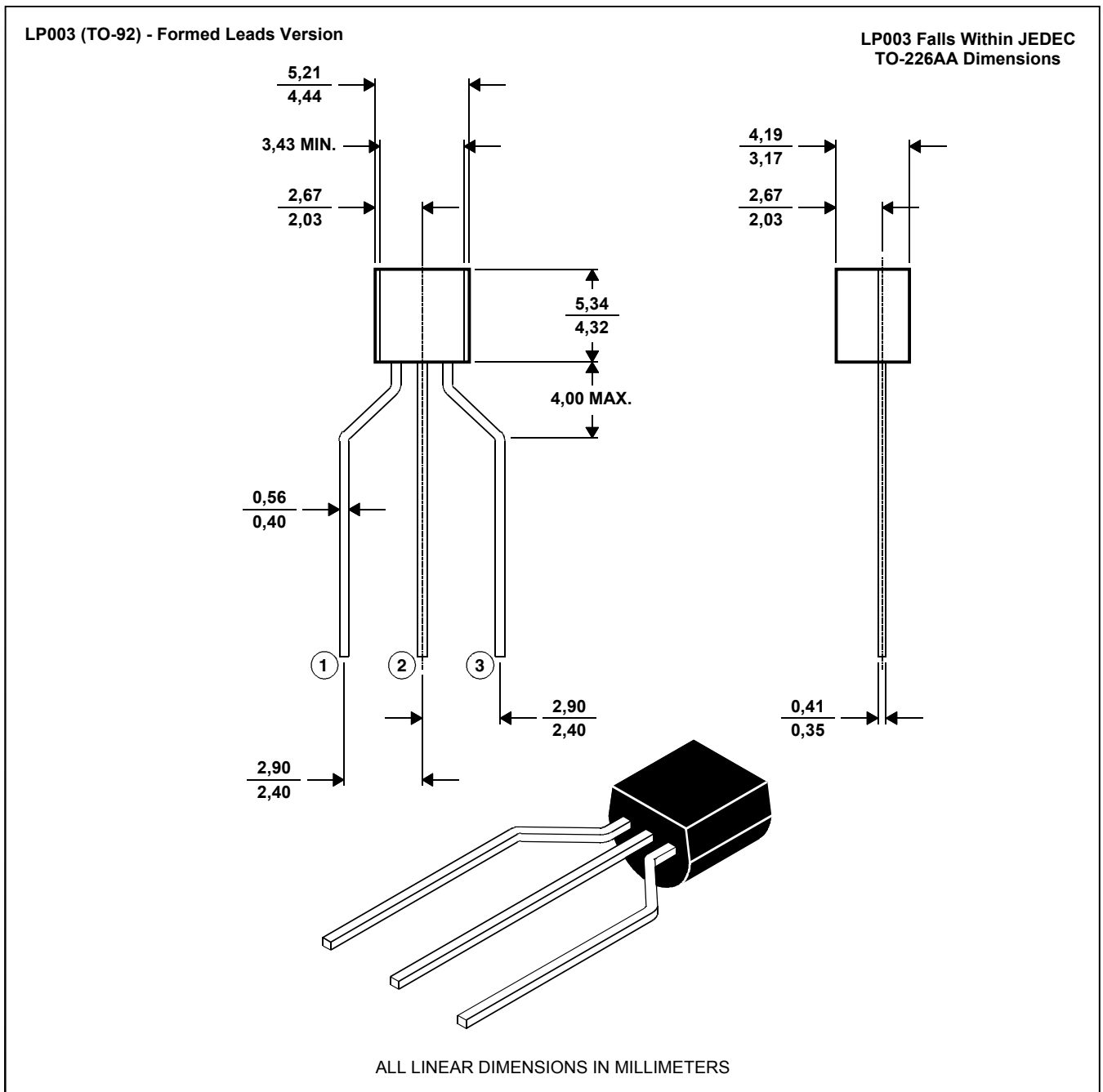
## PRODUCT INFORMATION

MECHANICAL DATA

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# TICP206 SERIES SILICON TRIACS

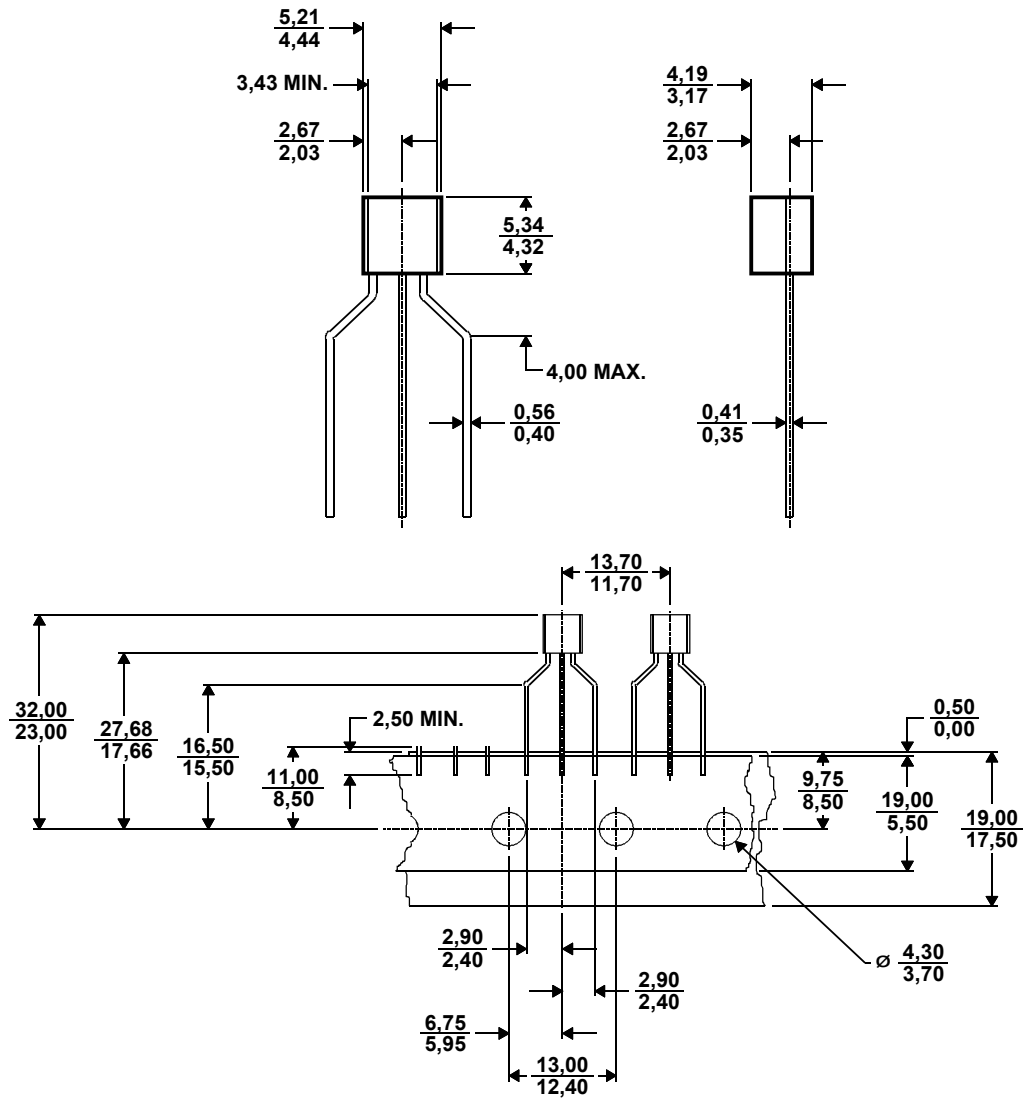
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## MECHANICAL DATA

LPR

tape dimensions

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



ALL LINEAR DIMENSIONS IN MILLIMETERS

MDXXAS

## PRODUCT INFORMATION

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