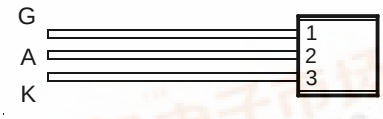
TICP106 SERIES
SILICON CONTROLLED RECTIFIERS

 MARCH 1988 - REVISED MARCH 1997

- **2 A Continuous On-State Current**
- **15 A Surge-Current**
- **Glass Passivated Wafer**
- **400 V to 600 V Off-State Voltage**
- **Max I_{GT} of 200 µA**
- **Package Options**

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

LP PACKAGE
(TOP VIEW)



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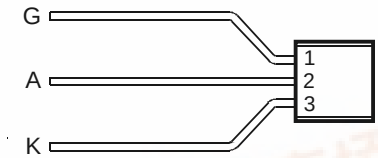
LP PACKAGE
WITH FORMED LEADS
(TOP VIEW)



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

RATING		SYMBOL	VALUE	UNIT
Repetitive peak off-state voltage (see Note 1)	TICP106D TICP106M	V_{DRM}	400 600	V
Repetitive peak reverse voltage	TICP106D TICP106M	V_{RRM}	400 600	V
Continuous on-state current at (or below) 85°C case temperature (see Note 2)		$I_{T(RMS)}$	2	A
Surge on-state current (see Note 3)		I_{TSM}	15	A
Peak positive gate current (pulse width ≤ 300 µs)		I_{GM}	0.2	A
Average gate power dissipation (see Note 4)		$P_{G(AV)}$	0.3	W
Operating case temperature range		T_C	-40 to +110	°C
Storage temperature range		T_{stg}	-40 to +125	°C
Lead temperature 3.2 mm from case for 10 seconds		T_L	230	°C

NOTES: 1. These values apply when the gate-cathode resistance R_{GK} = 1 kΩ.
2. These values apply for continuous dc operation with resistive load. Above 85°C derate linearly to zero at 110°C.
3. This value applies for one 50 Hz half-sine-wave when the device is operating at (or below) the rated value of peak reverse voltage and on-state current. Surge may be repeated after the device has returned to original thermal equilibrium.
4. This value applies for a maximum averaging time of 20 ms.

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

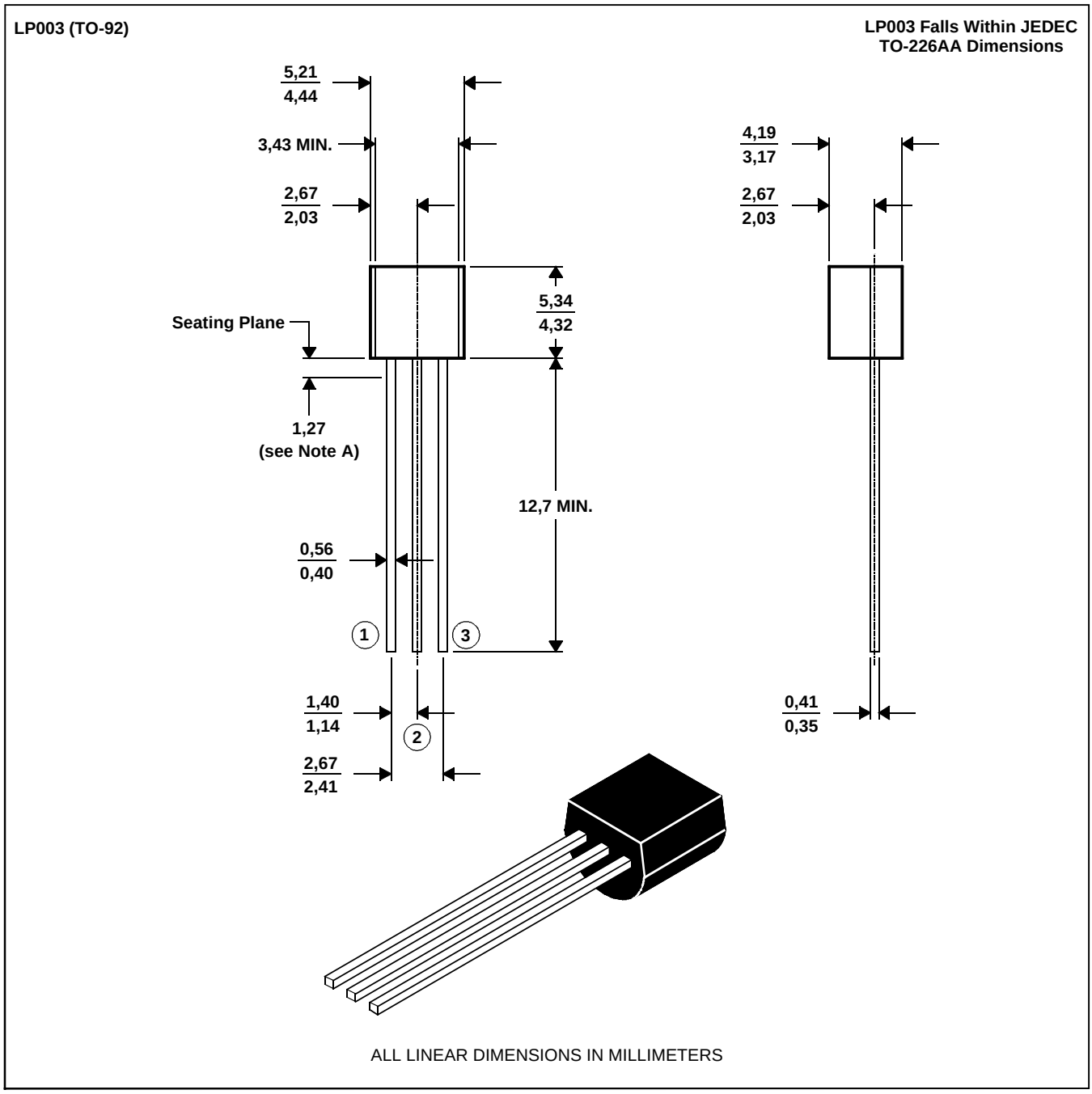
PARAMETER		TEST CONDITIONS			MIN	TYP	MAX	UNIT
I_{DRM}	Repetitive peak off-state current	V_D = rated V_{DRM}	R_{GK} = 1 kΩ				20	μA
I_{RRM}	Repetitive peak reverse current	V_R = rated V_{RRM}	I_G = 0				200	μA
I_{GT}	Gate trigger current	V_{AA} = 6 V	R_L = 100 Ω	$t_{p(g)} \geq 20$ μs		60	200	μA
V_{GT}	Gate trigger voltage	V_{AA} = 6 V	R_L = 100 Ω R_{GK} = 1 kΩ	$t_{p(g)} \geq 20$ μs	0.4		1	V
I_H	Holding current	V_{AA} = 6 V	R_{GK} = 1 kΩ	Initiating I_T = 10 mA			5	mA
V_{TM}	Peak on-state voltage	I_{TM} = 1 A	(see Note 5)				1.5	V

NOTE 5: This parameter must be measured using pulse techniques, t_p = 1 ms, duty cycle ≤ 2 %. Voltage sensing-contacts, separate from the current carrying contacts, are located within 3.2 mm from the device body.

MECHANICAL DATA

LP003 (TO-92)
3-pin cylindical 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.

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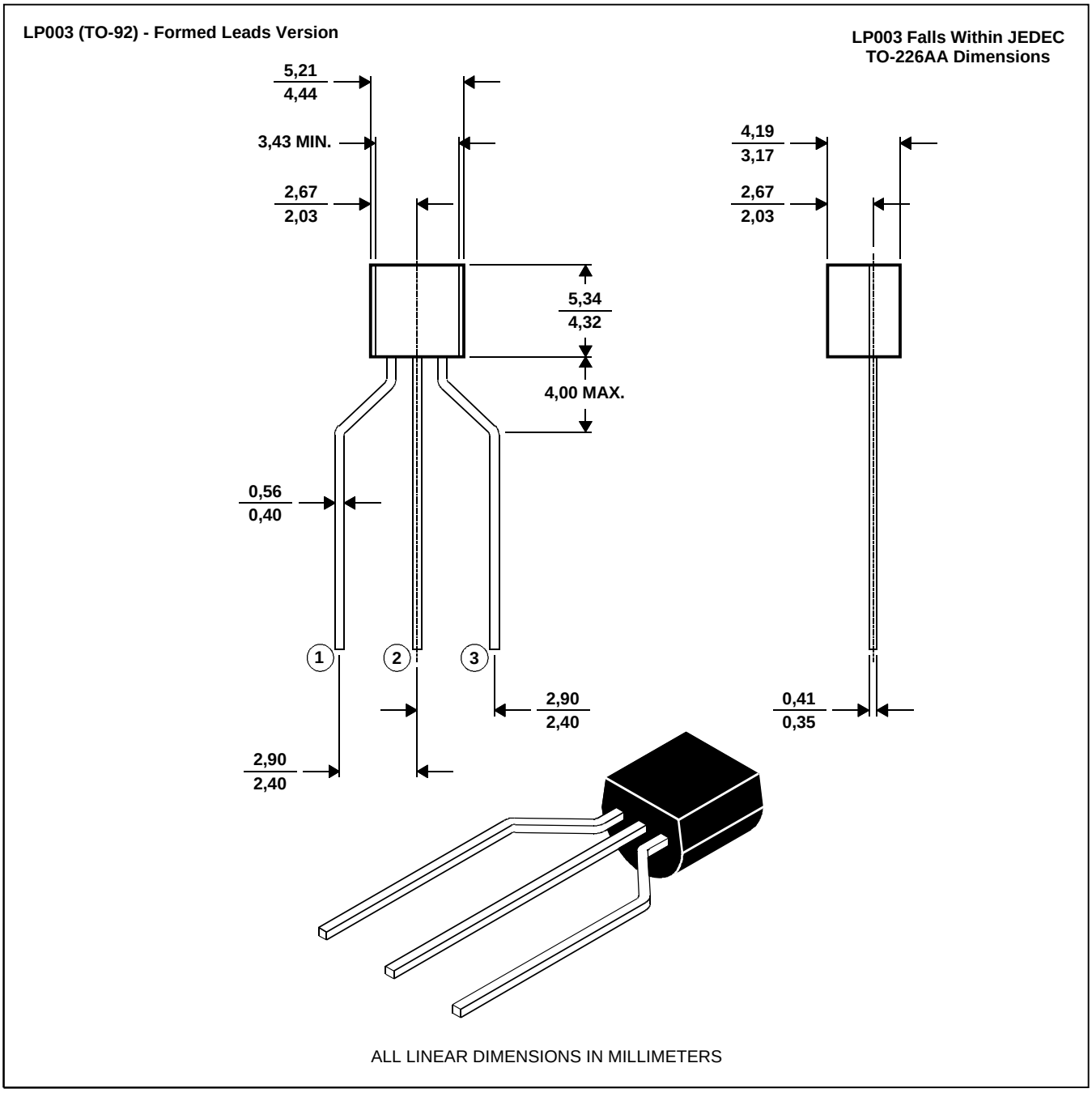

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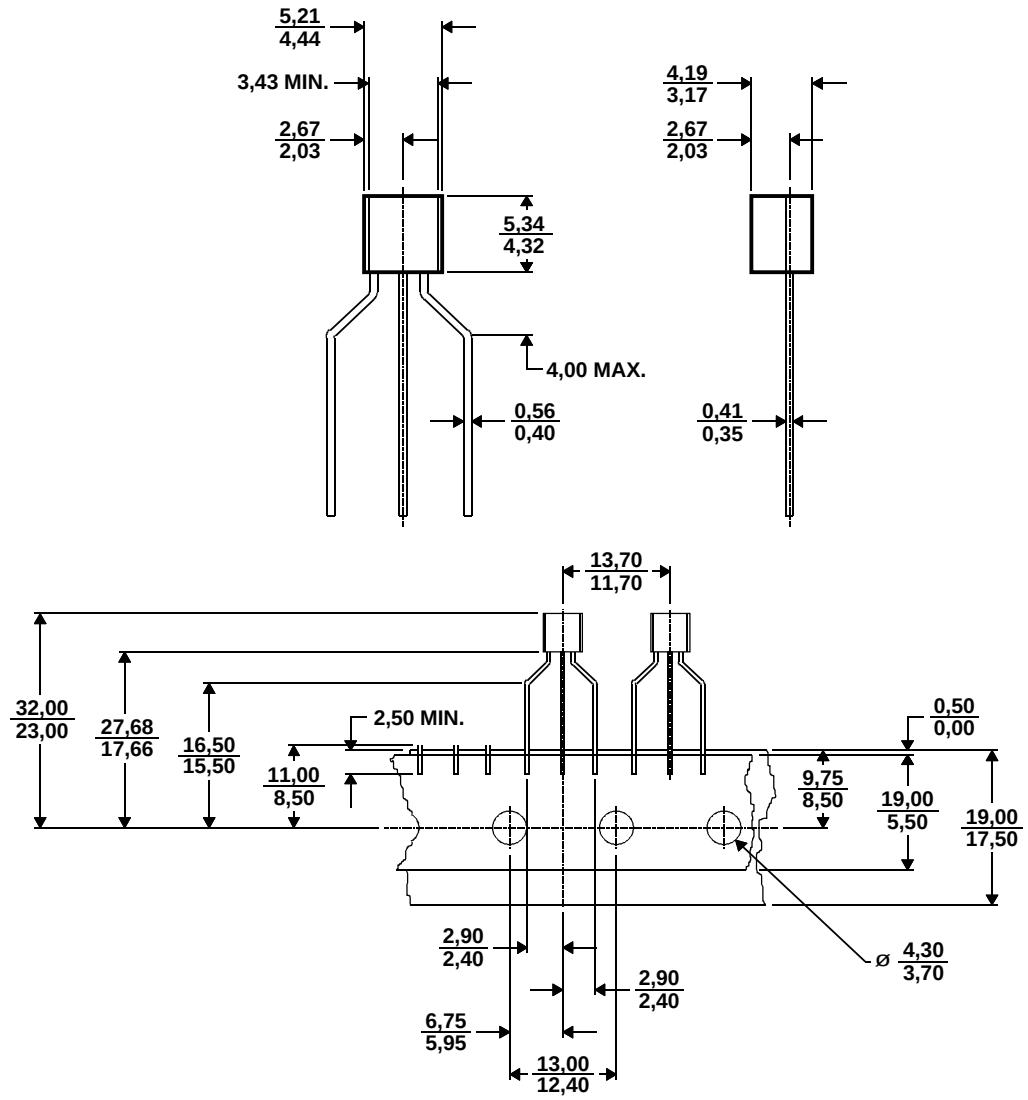
MECHANICAL DATA

LPR
tape dimensions

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



ALL LINEAR DIMENSIONS IN MILLIMETERS

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Power INNOVATIONS

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