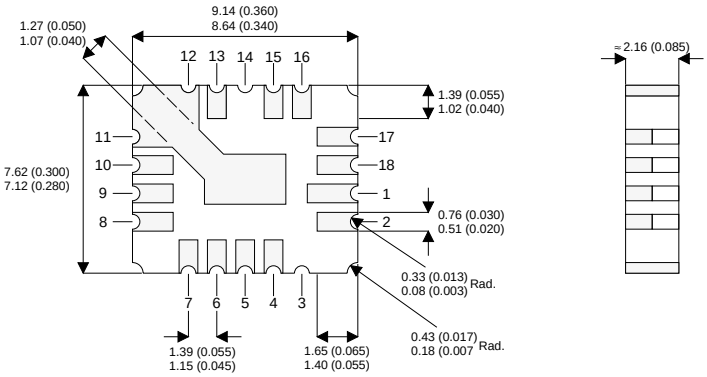
ZTX653LCC4

NPN TRANSISTOR IN A HERMETICALLY SEALED CERAMIC SURFACE MOUNT PACKAGE FOR HIGH RELIABILITY APPLICATIONS

MECHANICAL DATA
Dimensions in mm (inches)



LCC4 PACKAGE
Underside View

BASE	**4,5**
COLLECTOR	**1,2,15,16,17,18**
EMITTER	**6,7,8,9,10,11,12,13**

FEATURES

- **SILICON PLANAR NPN TRANSISTOR**
- **HERMETIC SURFACE MOUNT PACKAGE**
- **CECC SCREENING OPTIONS**
- **SPACE QUALITY LEVEL OPTIONS**

ABSOLUTE MAXIMUM RATINGS PER SIDE (T_C = 25°C unless otherwise stated)

V_{CBO}	Collector – Base Voltage	120V
V_{CEO}	Collector – Emitter Voltage	100V
V_{EBO}	Emitter – Base Voltage	5V
I_C	Continuous Collector Current	2A
P_{TOT}	Power Dissipation @ T_{amb} = 25°C	2W
	Derate above 25°C	16mW/°C
$T_j T_{STG}$	Operating And Storage Temperature Range	–55 to 150°C
$R_{\theta J\text{-}A}$	Junction - Ambient Thermal Resistance	62.5°C/W

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Issue 2

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise stated)

Parameter		Test Conditions		Min.	Typ.	Max.	Unit
$V_{(BR)CBO}$	Collector – Base Breakdown Voltage	I_C = 100µA		120			V
$V_{(BR)CEO}$	Collector – Emitter Breakdown Voltage	I_C = 10mA		100			V
$V_{(BR)EBO}$	Emitter – Base Breakdown Voltage	I_E = 100µA		5			V
I_{CBO}	Collector – Cut-off Current	V_{CB} = 100V				0.1	µA
			T_C = 100°C			10	
I_{EBO}	Emitter Cut-off Current	V_{EB} = 4V				0.1	µA
$V_{CE(sat)}$	Collector – Emitter Saturation Voltage	I_C = 1A	I_B = 100mA*		0.13	0.3	V
		I_C = 2A	I_B = 200mA*		0.23	0.5	
$V_{BE(sat)}$	Base – Emitter Saturation Voltage	I_C = 1A	I_B = 100mA*		0.9	1.25	V
$V_{BE(on)}$	Base – Emitter Turn-On Voltage	I_C = 1A	V_{CE} = 2V*		0.8	1.0	V
H_{FE}	DC Current Gain	I_C = 50mA	V_{CE} = 2V*	70	200		—
		I_C = 500mA	V_{CE} = 2V*	100	200	300	
		I_C = 1A	V_{CE} = 2V*	55	110		
		I_C = 2A	V_{CE} = 2V*	25	55		

* Pulse test t_p = 300ms , $\delta \leq 2\%$

DYNAMIC CHARACTERISTICS (T_A = 25°C unless otherwise stated)

Parameter		Test Conditions	Min.	Typ.	Max.	Unit
f_T	Transition Frequency	I_C = 100mA V_{CE} = 5V f = 100MHz	140	175		MHz
C_{obo}	Output Capacitance	V_{CB} = 10V f = 1.0MHz			30	pF
T_{on}	Switching Times	I_C = 500mA V_{CC} = 10V		80		ns
T_{off}	Switching Times	I_{B1}=I_{B2}=50mA		1200		