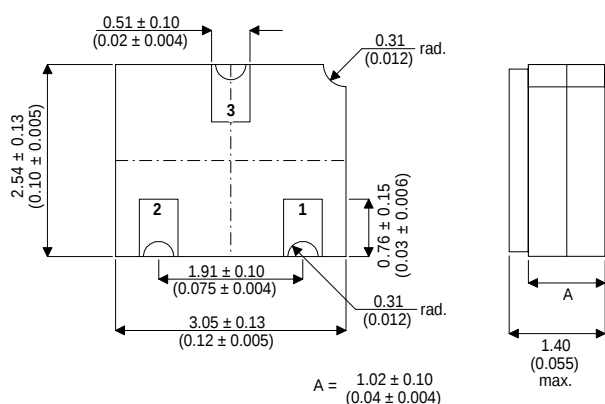


HIGH SPEED, MEDIUM POWER, NPN GENERAL PURPOSE TRANSISTOR IN A HERMETICALLY SEALED CERAMIC SURFACE MOUNT PACKAGE FOR HIGH RELIABILITY APPLICATIONS

MECHANICAL DATA

Dimensions in mm (inches)



SOT23 CERAMIC (LCC1 PACKAGE)

Underside View

PAD 1 – Base PAD 2 – Emitter PAD 3 – Collector

FEATURES

- SILICON PLANAR EPITAXIAL NPN TRANSISTOR
- HERMETIC CERAMIC SURFACE MOUNT PACKAGE (SOT23 COMPATIBLE)
- CECC SCREENING OPTIONS

APPLICATIONS:

Hermetically sealed surface mount version of the popular 2N2484 for high reliability applications requiring small size and low weight devices.

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise stated)

V_{CBO}	Collector – Base Voltage	60V
V_{CEO}	Collector – Emitter Voltage	60V
V_{EBO}	Emitter – Base Voltage	6V
I_C	Collector Current	50mA
P_D	Total Device Dissipation @ $T_A = 25^\circ\text{C}$	360mW
	Derate above 25°C	2.06mW / $^\circ\text{C}$
P_D	Total Device Dissipation @ $T_C = 25^\circ\text{C}$	1.2W
	Derate above 25°C	6.85mW / $^\circ\text{C}$
T_{STG}, T_J	Operating and Storage Temperature Range	-65 to $+200^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{(BR)CBO}^*$ Collector – Base Breakdown Voltage	$I_C = 10\mu\text{A}$ $I_E = 0$	60			V
$V_{(BR)CEO}$ Collector – Emitter Breakdown Voltage	$I_C = 10\text{mA}$ $I_B = 0$	60			
$V_{(BR)EBO}$ Emitter – Base Breakdown Voltage	$I_E = 10\mu\text{A}$ $I_C = 0$	6			
I_{CBO} Collector Cut-off Current	$V_{CB} = 45\text{V}$ $I_E = 0$			10	nA
I_{EBO} Emitter Cut-off Current	$V_{BE} = 5\text{V}$ $I_C = 0$			10	
$V_{CE(sat)}$ Collector – Emitter Saturation Voltage	$I_C = 1\text{mA}$ $I_B = 0.1\text{mA}$			0.35	V
$V_{BE(on)}$ Base – Emitter On Voltage	$I_C = 0.1\text{mA}$ $V_{CE} = 5\text{V}$	0.5		0.7	
h_{FE} DC Current Gain	$I_C = 1\mu\text{A}$ $V_{CE} = 5\text{V}$	30			—
	$I_C = 10\mu\text{A}$ $V_{CE} = 5\text{V}$	100		500	
	$I_C = 100\mu\text{A}$ $V_{CE} = 5\text{V}$	175			
	$I_C = 500\mu\text{A}$ $V_{CE} = 5\text{V}$	200			
	$I_C = 1\text{mA}$ $V_{CE} = 5\text{V}$	250			
	$I_C = 10\text{mA}$ $V_{CE} = 5\text{V}$			800	
f_T Current Gain Bandwidth Product	$f = 5\text{MHz}$ $I_C = 0.05\text{mA}$	15			MHz
	$f = 30\text{MHz}$ $I_C = 0.5\text{mA}$	60			
C_{ob} Output Capacitance	$V_{CB} = 5\text{V}$ $I_E = 0$ $f = 140\text{kHz}$			6	pF
C_{ib} Input Capacitance	$V_{BE} = 0.5\text{V}$ $I_C = 0$ $f = 140\text{kHz}$			6	pF
h_{ie} Input Impedance	$V_{CE} = 5\text{V}$	3.5		24	$\text{k}\Omega$
h_{re} Voltage Feedback Ratio	$I_C = 1\text{mA}$			800	$\times 10^{-6}$
h_{fe} Small Signal Current Gain	$f = 1\text{kHz}$	150		900	—

* Pulse Test: $t_p \leq 300\mu\text{s}$, $\delta \leq 2\%$.