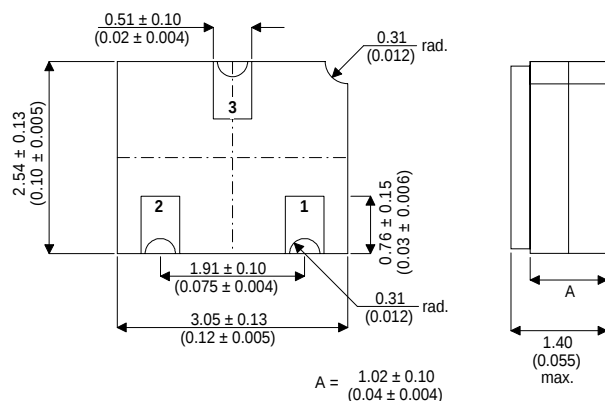


HIGH SPEED, PNP, SWITCHING TRANSISTOR IN A HERMETICALLY SEALED CERAMIC SURFACE MOUNT PACKAGE FOR HIGH RELIABILITY APPLICATIONS

MECHANICAL DATA

Dimensions in mm (inches)



Underside View

PAD 1 Base
PAD 2 Emitter
PAD 3 Collector

SOT23 CERAMIC (CSM) LCC1 PACKAGE

FEATURES

- SILICON PLANAR EPITAXIAL PNP TRANSISTOR
- HERMETIC CERAMIC SURFACE MOUNT PACKAGE (SOT23 COMPATIBLE)
- CECC SCREENING OPTIONS
- SPACE QUALITY LEVELS OPTIONS
- HIGH SPEED SATURATED SWITCHING

APPLICATIONS:

For high reliability general purpose applications requiring small size and low weight devices.

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

V_{CBO}	Collector – Base Voltage	–20V
V_{CEO}	Collector – Emitter Voltage	–20V
V_{EBO}	Emitter – Base Voltage	–4V
I_C	Collector Current	–200mA
P_D	Total Device Dissipation	300mW
P_D	Derate above $50^{\circ}C$	2.20mW / $^{\circ}C$
R_{ja}	Thermal Resistance Junction to Ambient	420 $^{\circ}C$ / W
T_j	Max Junction Temperature	200 $^{\circ}C$
T_{stg}	Storage Temperature	–55 to 200 $^{\circ}C$

ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V _{CEO(sus)} * Collector – Emitter Sustaining Voltage	I _C = 10mA	-20			V
V _{(BR)CBO} * Collector – Base Breakdown Voltage	I _C = 10μA	-20			V
V _{(BR)EBO} * Emitter – Base Breakdown Voltage	I _E = 10μA I _C = 0	-4			V
I _{CES} * Collector Cut-off Current	V _{CE} = 10V V _{BE} = 0			80	nA
	V _{CE} = 10V V _{BE} = 0			10	μA
	T _C = 125°C				
V _{CE(sat)} * Collector – Emitter Saturation Voltage	I _C = 10mA I _B = 1mA			0.15	V
	I _C = 30mA I _B = 3mA			0.20	
	I _C = 100mA I _B = 10mA			0.60	
V _{BE(sat)} * Base – Emitter Saturation Voltage	I _C = 10mA I _B = 1mA	0.78		0.98	V
	I _C = 30mA I _B = 3mA	0.85		1.2	
	I _C = 100mA I _B = 10mA			1.7	
h _{FE} * DC Current Gain	I _C = 10mA V _{CE} = 0.3V	25			—
	I _C = 30mA V _{CE} = 0.5V	30		120	
	I _C = 100mA V _{CE} = 1V	15			
	I _C = 30mA V _{CE} = 0.5V	12			

* Pulse test t_p = 300μs , δ ≤ 2%

DYNAMIC CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
f _T Transition Frequency	I _C = 30mA V _{CE} = 10V f = 100MHz	400			MHz
C _{EBO} Capacitance	V _{EB} = 0.5V I _C = 0 f = 1.0MHz			6.0	pF
C _{CBO} Input Capacitance	V _{CB} = 5V I _E = 0 f = 1.0MHz			5.0	pF

ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
t _{on} Turn-on Time	V _{CC} = 2V I _C = 30mA I _{B1} = 1.5mA			60	ns
t _{off} Turn-off Time	V _{CC} = 2V I _C = 30mA I _{B1} = I _{B2} = 1.5mA			90	ns