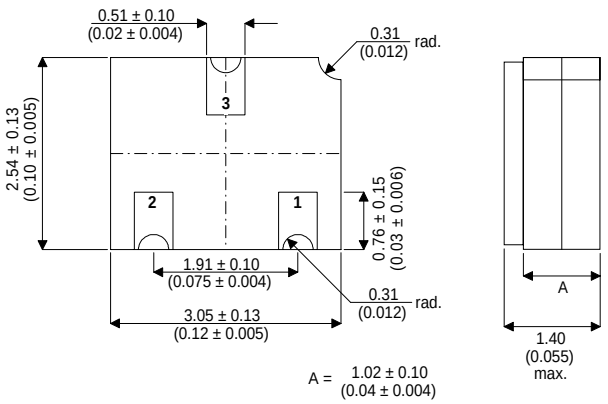
2N2857CSM

HIGH FREQUENCY NPN 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 NPN TRANSISTOR**
- **HERMETIC CERAMIC SURFACE MOUNT PACKAGE (SOT23 COMPATIBLE)**
- **CECC SCREENING OPTIONS**

APPLICATIONS:

Hermetically sealed surface mount version of the popular 2N2857 for high reliability applications requiring small size and low weight devices.

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise stated)

V_{CBO}	Collector – Base Voltage		30V
V_{CEO}	Collector – Emitter Voltage		15V
V_{EBO}	Emitter – Base Voltage		2.5V
I_C	Collector Current		40mA
P_D	Total Device Dissipation	@ T_A =25°C	200mW
		Derate above 25°C	1.14mW / °C
P_D	Total Device Dissipation	@ T_C =25°C	300mW
		Derate above 25°C	1.72mW / °C
T_{STG} , T_J	Operating and Storage Temperature Range		–65 to +200°C

SEME LAB

2N2857CSM

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 = 1µA	I_E = 0	30			V
$V_{(BR)CEO}$	Collector – Emitter Breakdown Voltage	I_C = 3mA	I_B = 0	15			
$V_{(BR)EBO}$	Emitter – Base Breakdown Voltage	I_E = 10µA	I_C = 0	2.5			
I_{CBO}	Collector – Base Cut-off Current	V_{CB} = 15V				50	µA
		I_E = 0	T_A = –55°C			1	
$V_{CE(sat)}$	Collector – Emitter Saturation Voltage	I_C = 10mA				0.4	V
$V_{BE(sat)}$	Base – Emitter Saturation Voltage	I_B = 1mA		0.5		1	
h_{FE}	DC Current Gain	V_{CE} = 1V		30			—
		I_C = 3mA	T_A = 150°C	10			
I_{CES}	Collector – Emitter Cut-off Current	V_{CB} = 16V	I_B = 0			100	nA
NF	Noise Figure	V_{CE} = 6V f = 450MHz	I_C = 1.5mA R_G = 50Ω			4.5	dB
h_{fe}	Small Signal Current Gain	V_{CE} = 6V	I_C = 2mA	50		220	—
$\lvert h_{fe} \rvert$	Magnitude of h_{fe}	V_{CE} = 6V f = 100MHz	I_C = 5mA	10		21	—
C_{cb}	Collector – Base Feedback Capacitance	V_{CB} = 10V f = 0.1 to 1 MHz	I_E = 0			1	pF
G_{pe}	Small Signal Power Gain	V_{CE} = 6V f = 450MHz	I_C = 1.50mA	12.5		21	dB
$r_b'C_c$	Collector – Base Time Constant	V_{CE} = 6V f = 31.9MHz	I_E = 2mA	4.0		15	ps