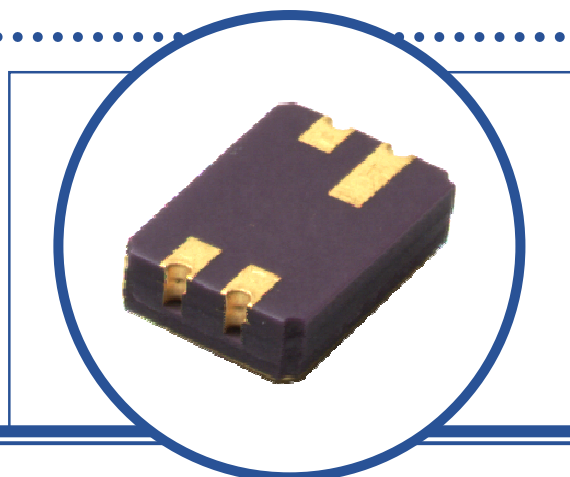


SILICON PLANAR EPITAXIAL NPN TRANSISTOR

2N3440C3

- High Voltage
- Hermetic Ceramic Surface Mount Package.
- Ideally suited for drivers in high-voltage low current inverters, switching and series regulators.
- Screening Options Available



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

V _{CB0}	Collector – Base Voltage	300V
V _{CEO}	Collector – Emitter Voltage	250V
V _{EBO}	Emitter – Base Voltage	7V
I _C	Collector Current – Continuous	1.0A
I _B	Base Current	0.5A
P _D	Total Power Dissipation at T _A = 25°C	500mW
	Derate Above 25°C	2.9mW/°C
T _J	Junction Temperature Range	-65 to +200°C
T _{stg}	Storage Temperature Range	-65 to +200°C

THERMAL PROPERTIES

Symbols	Parameters	Min.	Typ.	Max.	Units
R _{θJA}	Thermal Resistance, Junction To Ambient			350	°C/W
R _{θJSP}	Thermal Resistance, Junction To Solder Pads			120	°C/W

Semelab Limited reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

SILICON PLANAR EPITAXIAL NPN TRANSISTOR 2N3440C3

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

Symbols	Parameters	Test Conditions	Min.	Typ	Max.	Units
I_{CEO}	Collector Cut-Off Current	$V_{CE} = 200\text{V}$ $I_B = 0$			2	μA
I_{CBO}	Collector Cut-Off Current	$V_{CB} = 300\text{V}$ $I_E = 0$			5	
		$V_{CB} = 250\text{V}$ $I_E = 0$			2	
		$T_A = 150^\circ\text{C}$			10	
I_{CEX}	Collector Cut-Off Current	$V_{CE} = 300\text{V}$ $V_{BE} = -1.5\text{V}$			5	
I_{EBO}	Emitter Cut-Off Current	$V_{EB} = 7\text{V}$ $I_C = 0$			10	
$V_{CE(sat)}^{(1)}$	Collector-Emitter Saturation Voltage	$I_C = 50\text{mA}$ $I_B = 4\text{mA}$			0.5	V
$V_{BE(sat)}^{(1)}$	Base-Emitter Saturation Voltage	$I_C = 50\text{mA}$ $I_B = 4\text{mA}$			1.3	
$h_{FE}^{(1)}$	Forward-current transfer ratio	$I_C = 0.2\text{mA}$ $V_{CE} = 10\text{V}$	10			
		$I_C = 2\text{mA}$ $V_{CE} = 10\text{V}$	30			
		$I_C = 20\text{mA}$ $V_{CE} = 10\text{V}$	40		160	
		$T_A = -55^\circ\text{C}$	15			

DYNAMIC CHARACTERISTICS

h_{fe}	Small signal forward-current transfer ratio	$I_C = 5\text{mA}$ $V_{CE} = 10\text{V}$ $f = 1.0\text{KHz}$	25			-
$ h_{fe} $	Magnitude of Common-Emitter Small-Signal Short-Circuit forward Current, Transfer Ratio	$I_C = 10\text{mA}$ $V_{CE} = 10\text{V}$ $f = 5\text{MHz}$	3		15	MHz
C_{obo}	Output Capacitance	$V_{CB} = 10\text{V}$ $I_E = 0$ $f = 1.0\text{MHz}$			10	pF
C_{ibo}	Input Capacitance	$V_{EB} = 5\text{V}$ $I_C = 0$ $f = 1.0\text{MHz}$			75	pF
t_{on}	Turn-On Time	$I_C = 20\text{mA}$ $V_{CC} = 200\text{V}$ $I_{B1} = 2\text{mA}$			1.0	μs
t_{off}	Turn-Off Time	$I_C = 20\text{mA}$ $V_{CC} = 200\text{V}$ $I_{B1} = -I_{B2} = 2\text{mA}$			10	

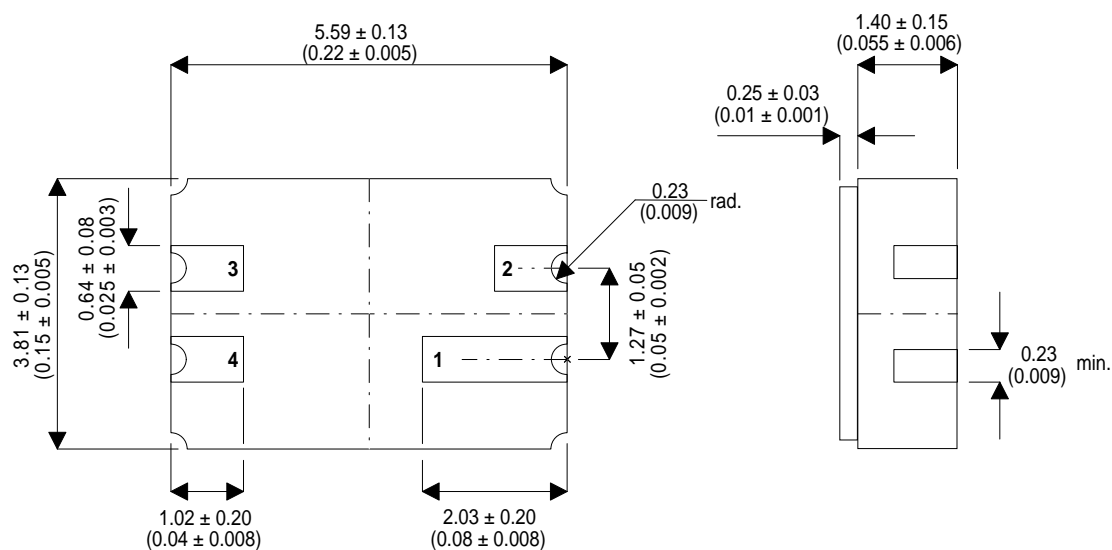
Notes

(1) Pulse Width $\leq 300\mu\text{s}$, $\delta \leq 2\%$

SILICON PLANAR EPITAXIAL NPN TRANSISTOR 2N3440C3

MECHANICAL DATA

Dimensions in mm (inches)



LCC3 (MO-041BA)

Underside View

Pad 1 – Collector Pad 2 – N/C Pad 3 – Base Pad 4 – Emitter