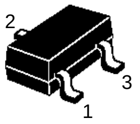
SOA06

SMALL SIGNAL NPN TRANSISTOR

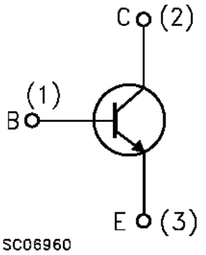
Type	Marking
SOA06	1GT

- SILICON EPITAXIAL PLANAR NPN TRANSISTORS
- MINIATURE PLASTIC PACKAGE FOR APPLICATION IN SURFACE MOUNTING CIRCUITS
- MEDIUM CURRENT AF AMPLIFICATION
- PNP COMPLEMENTS IS SOA56



SOT-23

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage (I_E = 0)	80	V
V_{CEO}	Collector-Emitter Voltage (I_B = 0)	80	V
V_{EBO}	Emitter-Base Voltage (I_C = 0)	4	V
I_C	Collector Current	0.5	A
P_{tot}	Total Dissipation at T_c = 25 ^oC	350	mW
T_{stg}	Storage Temperature	-65 to 150	^oC
T_j	Max. Operating Junction Temperature	150	^oC

THERMAL DATA

$R_{thj\text{-}amb}$ •	Thermal Resistance Junction-Ambient Max	350	^{o}C/W

• Mounted on a ceramic substrate area = 15 x 15 x 0.5 mm

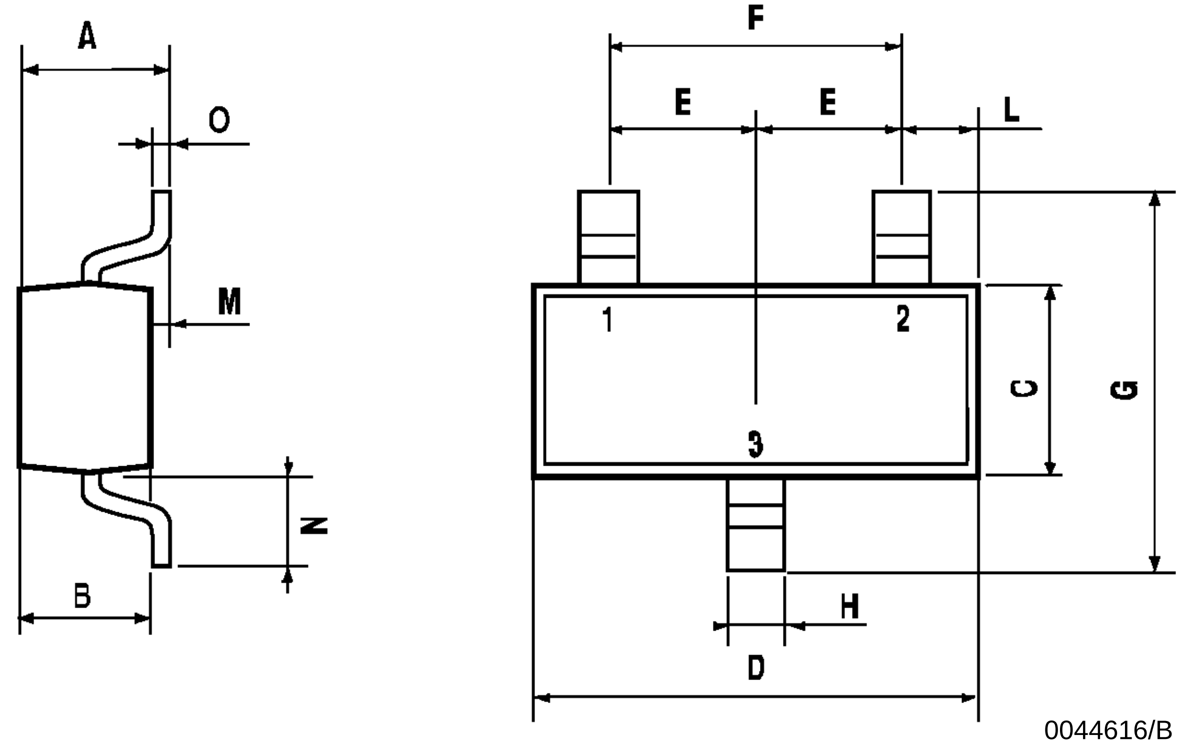
ELECTRICAL CHARACTERISTICS (T_{case} = 25 ^{o}C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cut-off Current (I_E = 0)	V_{CB} = 80 V			100	nA
I_{CEO}	Collector Cut-off Current (I_E = 0)	V_{CE} = 60 V			100	nA
$V_{(BR)CEO}$∗	Collector-Emitter Breakdown Voltage (I_B = 0)	I_C = 1 mA	80			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage (I_C = 0)	I_E = 100 µA	4			V
$V_{CE(sat)}$∗	Collector-Emitter Saturation Voltage	I_C = 100 mA I_B = 10 mA			0.25	V
$V_{BE(on)}$∗	Base-Emitter On Voltage	I_C = 100 mA V_{CE} = 1 V			1.2	V
h_{FE}∗	DC Current Gain	I_C = 10 mA V_{CE} = 1 V I_C = 100 mA V_{CE} = 1 V	50 50			
f_T	Transition Frequency	I_C = 10 mA V_{CE} = 2 V f = 100 MHz	100			MHz

∗ Pulsed: Pulse duration = 300 µs, duty cycle ≤ 2 %

SOT-23 MECHANICAL DATA

DIM.	mm			mils		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	0.85		1.1	33.4		43.3
B	0.65		0.95	25.6		37.4
C	1.20		1.4	47.2		55.1
D	2.80		3	110.2		118
E	0.95		1.05	37.4		41.3
F	1.9		2.05	74.8		80.7
G	2.1		2.5	82.6		98.4
H	0.38		0.48	14.9		18.8
L	0.3		0.6	11.8		23.6
M	0		0.1	0		3.9
N	0.3		0.65	11.8		25.6
O	0.09		0.17	3.5		6.7



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