

SURFACE MOUNT NPN SILICON TRANSISTOR

SOT-23 CASE



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DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPT3019 type is an NPN silicon transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for very high current, general purpose amplifier applications.

MARKING CODE: C3A

MAXIMUM RATINGS: (T _A =25°C)	SYMBOL		UNITS
Collector-Base Voltage	V _{CBO}	140	V
Collector-Emitter Voltage	V _{CEO}	80	V
Emitter-Base Voltage	V _{EBO}	7.0	V
Continuous Collector Current	۱ _C	500	mA
Peak Collector Current	^I CM	1.0	А
Power Dissipation	PD	350	mW
Operating and Storage Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	Θ_{JA}	357	°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

TEST CONDITIONS	MIN	MAX	UNITS
V _{CB} =90V		10	nA
V _{EB} =5.0V		10	nA
I _C =100μA	140		V
I _C =30mA	80		V
I _E =100μΑ	7.0		V
I _C =150mA, I _B =15mA		0.2	V
I _C =500mA, I _B =50mA		0.5	V
I _C =150mA, I _B =15mA		1.1	V
V _{CE} =10V, I _C =0.1mA	50		
V _{CE} =10V, I _C =10mA	90		
V _{CE} =10V, I _C =150mA	100	300	
V _{CE} =10V, I _C =500mA	50		
V _{CE} =10V, I _C =50mA, f=20MHz	100	400	MHz
V _{CB} =10V, I _E =0, f=1.0MHz		12	pF
V _{EB} =0.5V, I _C =0, f=1.0MHz		60	pF
V _{CE} =10V, I _C =100μA,			
R _S =1.0kΩ, f=1.0kHz		4.0	dB
	$\begin{array}{l} \label{eq:spectral_states} V_{CB} = 90V \\ V_{EB} = 5.0V \\ I_{C} = 100 \mu A \\ I_{C} = 30m A \\ I_{E} = 100 \mu A \\ I_{C} = 150m A, I_{B} = 15m A \\ I_{C} = 500m A, I_{B} = 50m A \\ I_{C} = 150m A, I_{B} = 15m A \\ V_{CE} = 10V, I_{C} = 0.1m A \\ V_{CE} = 10V, I_{C} = 0.1m A \\ V_{CE} = 10V, I_{C} = 10m A \\ V_{CE} = 10V, I_{C} = 10m A \\ V_{CE} = 10V, I_{C} = 50m A \\ V_{CE} = 10V, I_{C} = 50m A \\ V_{CE} = 10V, I_{C} = 50m A \\ V_{CB} = 10V, I_{C} = 50m A, f = 20MHz \\ V_{CB} = 10V, I_{C} = 0, f = 1.0MHz \\ V_{CB} = 0.5V, I_{C} = 0, f = 1.0MHz \\ V_{CE} = 10V, I_{C} = 100\mu A, \end{array}$	$\begin{array}{lll} & \mbox{V}_{CB} = 90 \mbox{V}_{EB} = 5.0 \mbox{V}_{IC} = 100 \mbox{μA} & 140 \mbox{$I_{C} = 100 \mbox{$\mu$A}} & 80 \mbox{$I_{E} = 100 \mbox{μA}} & 7.0 \mbox{$I_{C} = 150 \mbox{$m$A}, I_{B} = 15 \mbox{$m$A}} & \mbox{$I_{C} = 150 \mbox{mA}, I_{B} = 15 \mbox{mA}} & \mbox{$I_{C} = 100 \mbox{$\mu$A}, I_{B} = 15 \mbox{$m$A}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 0.1 \mbox{$m$A}}} & 50 \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 10 \mbox{$m$A}}} & \mbox{$100$} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 10 \mbox{$m$A}, f = 20 \mbox{$MHz$}} & \mbox{$100$} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 50 \mbox{$m$A}, f = 20 \mbox{$MHz$}} & \mbox{$100$} & \mbox{$V_{CB} = 10 \mbox{$V, I_{C} = 0, f = 1.0 \mbox{MHz}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 10 \mbox{MHz}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 10 \mbox{MHz}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 10 \mbox{MHz}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 10 \mbox{MHz}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 10 \mbox{MHz}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 10 \mbox{MHz}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 10 \mbox{MHz}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 10 \mbox{MHz}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 100 \mbox{MAx}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 100 \mbox{MAx}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 100 \mbox{MAx}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 100 \mbox{MAx}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 100 \mbox{MAx}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 100 \mbox{MAx}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 100 \mbox{MAx}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 100 \mbox{MAx}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 100 \mbox{MAx}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 100 \mbox{MAx}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 100 \mbox{MAx}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 100 \mbox{MAx}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 100 \mbox{MAx}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 100 \mbox{MAx}}} & \mbox{$V_{CE} = 10 \mbox{$V, I_{C} = 100 \mbox{MAx}}} & \mbox$	$\begin{array}{cccc} V_{CB} = 90V & 10 \\ V_{EB} = 5.0V & 10 \\ I_{C} = 100 \mu A & 140 \\ I_{C} = 30 m A & 80 \\ I_{E} = 100 \mu A & 7.0 \\ I_{C} = 150 m A, I_{B} = 15 m A & 0.2 \\ I_{C} = 500 m A, I_{B} = 50 m A & 0.5 \\ I_{C} = 150 m A, I_{B} = 50 m A & 0.5 \\ I_{C} = 150 m A, I_{B} = 15 m A & 0.5 \\ I_{C} = 10V, I_{C} = 0.1 m A & 50 \\ V_{CE} = 10V, I_{C} = 0.1 m A & 50 \\ V_{CE} = 10V, I_{C} = 10 m A & 90 \\ V_{CE} = 10V, I_{C} = 10 m A & 90 \\ V_{CE} = 10V, I_{C} = 50 m A & 100 & 300 \\ V_{CE} = 10V, I_{C} = 50 m A & 50 \\ V_{CE} = 10V, I_{C} = 50 m A & 50 \\ V_{CE} = 10V, I_{C} = 50 m A, f = 20 M Hz & 100 & 400 \\ V_{CB} = 10V, I_{E} = 0, f = 1.0 M Hz & 12 \\ V_{EB} = 0.5V, I_{C} = 0, f = 1.0 M Hz & 60 \\ V_{CE} = 10V, I_{C} = 100 \mu A, \end{array}$

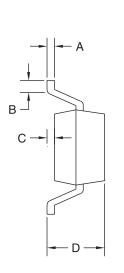
R4 (9-November 2010)

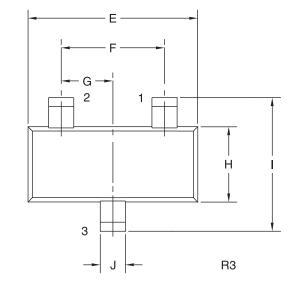


CMPT3019

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SOT-23 CASE - MECHANICAL OUTLINE





LEAD CODE: 1) Base 2) Emitter 3) Collector

MARKING CODE: C3A

DIMENSIONS						
	INCHES		MILLIMETERS			
SYMBOL	MIN	MAX	MIN	MAX		
А	0.003	0.007	0.08	0.18		
В	0.006	-	0.15	-		
С	-	0.005	-	0.13		
D	0.035	0.043	0.89	1.09		
E	0.110	0.120	2.80	3.05		
F	0.075		1.90			
G	0.037		0.95			
Н	0.047	0.055	1.19	1.40		
	0.083	0.098	2.10	2.49		
J	0.014	0.020	0.35	0.50		

SOT-23 (REV: R3)

R4 (9-November 2010)

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OUTSTANDING SUPPORT AND SUPERIOR SERVICES

PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- · Consolidated shipping options

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities

ss your design challenges.

· Custom product packing

- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- · Application and design sample kits

Custom bar coding for shipments

Custom product and package development

REQUESTING PRODUCT PLATING

- 1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
- If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

CONTACT US

Corporate Headquarters & Customer Support Team

Central Semiconductor Corp. 145 Adams Avenue Hauppauge, NY 11788 USA Main Tel: (631) 435-1110 Main Fax: (631) 435-1824 Support Team Fax: (631) 435-3388 www.centralsemi.com

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