

2N3867

SILICON

PNP TRANSISTOR



TO-5 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N3867 is a silicon PNP power transistor designed for high speed switching and amplifier applications.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	4.0	V
Continuous Collector Current	I_C	3.0	A
Peak Collector Current	I_{CM}	10	A
Continuous Base Current	I_B	0.5	A
Power Dissipation	P_D	6.0	W
Power Dissipation ($T_A=25^{\circ}\text{C}$)	P_D	1.0	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +200	$^{\circ}\text{C}$
Thermal Resistance	θ_{JC}	29	$^{\circ}\text{C/W}$
Thermal Resistance	θ_{JA}	175	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=40\text{V}, T_C=150^{\circ}\text{C}$		150	μA
I_{CEX}	$V_{CE}=40\text{V}, V_{BE}=2.0\text{V}$		1.0	μA
BV_{CEO}	$I_C=20\text{mA}$	40		V
BV_{EBO}	$I_E=100\mu\text{A}$	4.0		V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.5	V
$V_{CE(SAT)}$	$I_C=1.5\text{A}, I_B=150\text{mA}$		0.75	V
$V_{CE(SAT)}$	$I_C=2.5\text{A}, I_B=250\text{mA}$		1.3	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.0	V
$V_{BE(SAT)}$	$I_C=1.5\text{A}, I_B=150\text{mA}$	0.9	1.4	V
$V_{BE(SAT)}$	$I_C=2.5\text{A}, I_B=250\text{mA}$		2.0	V
h_{FE}	$V_{CE}=1.0\text{V}, I_C=500\text{mA}$	50		
h_{FE}	$V_{CE}=2.0\text{V}, I_C=1.5\text{A}$	40	200	
h_{FE}	$V_{CE}=3.0\text{V}, I_C=2.5\text{A}$	25		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=3.0\text{A}$	20		
f_T	$V_{CE}=5.0\text{V}, I_C=100\text{mA}, f=20\text{MHz}$	60		MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=100\text{kHz}$		120	pF
C_{ib}	$V_{EB}=3.0\text{V}, I_C=0, f=100\text{kHz}$		1000	pF
t_d	$V_{CC}=30\text{V}, V_{BE(off)}=0$		35	ns
t_r	$I_C=1.5\text{A}, I_{B1}=150\text{mA}$		65	ns
t_s	$V_{CC}=30\text{V}, I_C=1.5\text{A}$		325	ns
t_f	$I_{B1}=I_{B2}=150\text{mA}$		75	ns

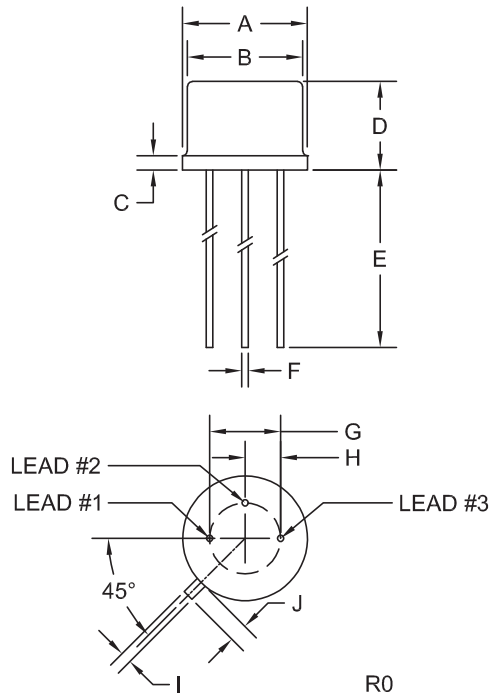
R0 (8-May 2013)

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TO-5 CASE - MECHANICAL OUTLINE



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.335	0.370	8.51	9.40
B (DIA)	0.315	0.335	8.00	8.51
C	-	0.040	-	1.02
D	0.240	0.260	6.10	6.60
E	1.500	1.752	38.1	44.5
F (DIA)	0.016	0.021	0.41	0.53
G (DIA)	0.200		5.08	
H	0.100		2.54	
I	0.028	0.034	0.71	0.86
J	0.029	0.045	0.74	1.14

TO-5 (REV: R0)

LEAD CODE:

- 1) Emitter
- 2) Base
- 3) Collector

MARKING: FULL PART NUMBER

R0 (8-May 2013)

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
- Custom bar coding for shipments
- Custom product packing

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
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- 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).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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