2N5336 2N5338
2N5337 2N5339

SILICON
NPN TRANSISTORS

TO-39 CASE

Central Semiconductor Corp.

www.centralsemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N5336 series devices are silicon epitaxial planar NPN transistors designed for power amplifier and switching power supplies where very low saturation voltage and high speed switching at high current levels are needed.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: (T_C=25°C)	**SYMBOL**	**2N5336 2N5337**	**2N5338 2N5339**	**UNITS**
Collector-Base Voltage	V_{CBO}	80	100	V
Collector-Emitter Voltage	V_{CEO}	80	100	V
Emitter-Base Voltage	V_{EBO}	6.0		V
Continuous Collector Current	I_C	5.0		A
Continuous Base Current	I_B	1.0		A
Power Dissipation	P_D	6.0		W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +200		°C
Thermal Resistance	Θ_{JC}	29		°C/W

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

		2N5336 2N5337		**2N5338 2N5339**		
SYMBOL	**TEST CONDITIONS**	**MIN**	**MAX**	**MIN**	**MAX**	**UNITS**
I_{CBO}	V_{CB}=Rated V_{CBO}	-	10	-	10	μA
I_{CEV}	V_{CE}=75V, V_{EB}=1.5V	-	10	-	-	μA
I_{CEV}	V_{CE}=90V, V_{EB}=1.5V	-	-	-	10	μA
I_{CEV}	V_{CE}=75V, V_{EB}=1.5V, T_C=150°C	-	1.0	-	-	mA
I_{CEV}	V_{CE}=90V, V_{EB}=1.5V, T_C=150°C	-	-	-	1.0	mA
I_{CEO}	V_{CE}=75V	-	100	-	-	μA
I_{CEO}	V_{CE}=90V	-	-	-	100	μA
I_{EBO}	V_{EB}=6.0V	-	100	-	100	μA
BV_{CEO}	I_C=50mA	80	-	100	-	V
$V_{CE(SAT)}$	I_C=2.0A, I_B=200mA	-	0.7	-	0.7	V
$V_{CE(SAT)}$	I_C=5.0A, I_B=500mA	-	1.2	-	1.2	V
$V_{BE(SAT)}$	I_C=2.0A, I_B=200mA	-	1.2	-	1.2	V
$V_{BE(SAT)}$	I_C=5.0A, I_B=500mA	-	1.8	-	1.8	V
h_{FE}	V_{CE}=2.0V, I_C=500mA (2N5336, 2N5338)	30	-	30	-	
h_{FE}	V_{CE}=2.0V, I_C=500mA (2N5337, 2N5339)	60	-	60	-	
h_{FE}	V_{CE}=2.0V, I_C=2.0A (2N5336, 2N5338)	30	120	30	120	
h_{FE}	V_{CE}=2.0V, I_C=2.0A (2N5337, 2N5339)	60	240	60	240	
h_{FE}	V_{CE}=2.0V, I_C=5.0A (2N5336, 2N5338)	20	-	20	-	
h_{FE}	V_{CE}=2.0V, I_C=5.0A (2N5337, 2N5339)	40	-	40	-	

R1 (4-April 2014)

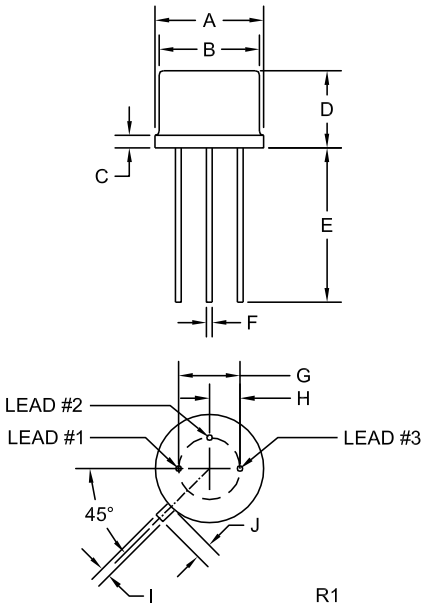
2N5336 2N5338
2N5337 2N5339

SILICON
NPN TRANSISTORS

ELECTRICAL CHARACTERISTICS - Continued: (T_C=25°C unless otherwise noted)

		2N5336 2N5337		2N5338 2N5339		
SYMBOL	**TEST CONDITIONS**	**MIN**	**MAX**	**MIN**	**MAX**	**UNITS**
f_T	V_{CE}=10V, I_C=500mA, f=10MHz	30	-	30	-	MHz
C_{ob}	V_{CB}=10V, I_E=0, f=100kHz	-	250	-	250	pF
C_{ib}	V_{BE}=2.0V, I_C=0, f=100kHz	-	1.0	-	1.0	nF
t_{on}	V_{CC}=40V, I_C=2.0A, I_{B1}=200mA	-	200	-	200	ns
t_s	V_{CC}=40V, I_C=2.0A, I_{B1}=I_{B2}=200mA	-	2.0	-	2.0	μs
t_f	V_{CC}=40V, I_C=2.0A, I_{B1}=I_{B2}=200mA	-	200	-	200	ns

TO-39 CASE - MECHANICAL OUTLINE



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	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	0.500	-	12.70	-
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-39 (REV: R1)

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

MARKING: FULL PART NUMBER

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

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

Worldwide Field Representatives:
www.centralsemi.com/wwreps

Worldwide Distributors:
www.centralsemi.com/wwdistributors