2N4237
2N4238
2N4239

SILICON
NPN TRANSISTORS

TO-39 CASE

Central Semiconductor Corp.

www.centralsemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N4237, 2N4238, and 2N4239 are silicon NPN transistors mounted in a hermetically sealed metal case, designed for power amplifier, power driver, and switching power supply applications.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: (T_C=25°C unless otherwise noted)

	SYMBOL	2N4237	2N4238	2N4239	UNITS
Collector-Base Voltage	V_{CBO}	50	80	100	V
Collector-Emitter Voltage	V_{CEO}	40	60	80	V
Emitter-Base Voltage	V_{EBO}		6.0		V
Continuous Collector Current	I_C		3.0		A
Continuous Base Current	I_B		0.5		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}		29.2		°C/W

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	V_{CB}=Rated V_{CBO}		100	μA
I_{CEV}	V_{CE}=45V, V_{EB}=1.5V (2N4237)		100	μA
I_{CEV}	V_{CE}=75V, V_{EB}=1.5V (2N4238)		100	μA
I_{CEV}	V_{CE}=90V, V_{EB}=1.5V (2N4239)		100	μA
I_{CEV}	V_{CE}=30V, V_{EB}=1.5V, T_C=150°C (2N4237)		1.0	mA
I_{CEV}	V_{CE}=50V, V_{EB}=1.5V, T_C=150°C (2N4238)		1.0	mA
I_{CEV}	V_{CE}=70V, V_{EB}=1.5V, T_C=150°C (2N4239)		1.0	mA
I_{CEO}	V_{CE}=Rated V_{CEO}		700	μA
I_{EBO}	V_{EB}=6.0V		500	μA
BV_{CEO}	I_C=100mA (2N4237)	40		V
BV_{CEO}	I_C=100mA (2N4238)	60		V
BV_{CEO}	I_C=100mA (2N4239)	80		V
$V_{CE(SAT)}$	I_C=500mA, I_B=50mA		0.3	V
$V_{CE(SAT)}$	I_C=1.0A, I_B=0.1A		0.6	V
$V_{BE(SAT)}$	I_C=1.0A, I_B=0.1A		1.5	V
$V_{BE(ON)}$	V_{CE}=1.0V, I_C=250mA		1.0	V

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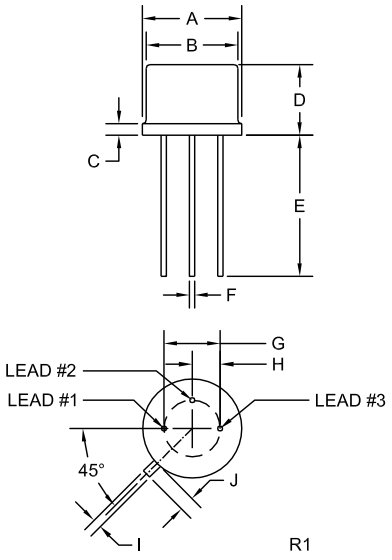
ELECTRICAL CHARACTERISTICS - Continued: (T_C=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	V_{CE}=1.0V, I_C=50mA	30		
h_{FE}	V_{CE}=1.0V, I_C=250mA	30	250	
h_{FE}	V_{CE}=1.0V, I_C=500mA	30		
h_{FE}	V_{CE}=1.0V, I_C=1.0A	15		
h_{fe}	V_{CE}=10V, I_C=100mA, f=1.0kHz	30		
f_T	V_{CE}=10V, I_C=100mA, f=1.0kHz	2.0		MHz
C_{ob}	V_{CB}=10V, I_E=0, f=100kHz		100	pF

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

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

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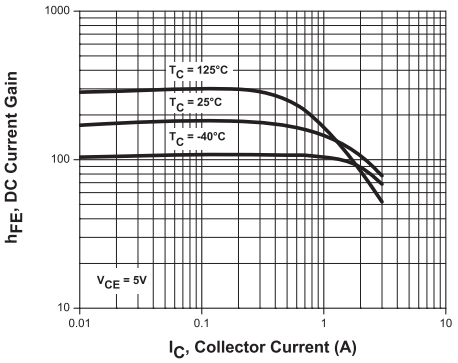
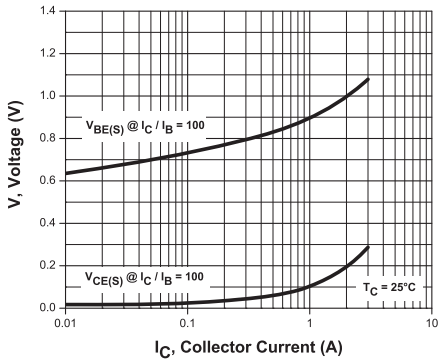
TYPICAL ELECTRICAL CHARACTERISTICS

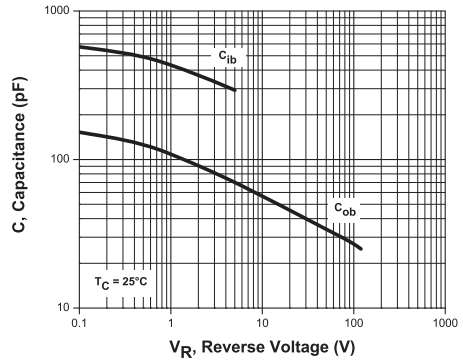
DC Current Gain



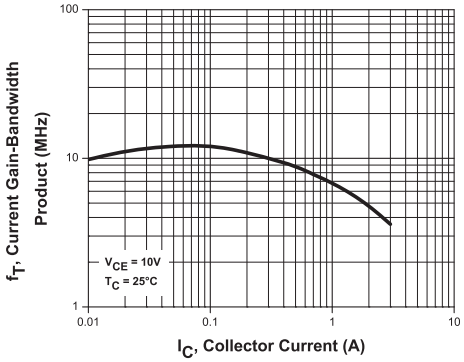
"ON" Voltage



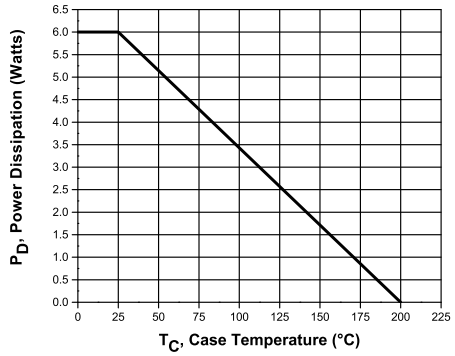
Capacitance



Current Gain-Bandwidth Product



Power Derating



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SERVICES

- Bonded Inventory
- Custom Electrical Screening
- Custom Electrical Characteristic Curves
- SPICE Models
- Custom Packaging
- Package Base Options
- Custom Device Development / Multi Discrete Modules (MDM™)
- Bare Die Available for Hybrid Applications

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