

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

PN5135
PN5136
PN5137

NPN SILICON TRANSISTORS

JEDEC TO-92 CASE (EBC)

DESCRIPTION

The CENTRAL SEMICONDUCTOR PN5135, PN5136, PN5137 types are silicon NPN small signal transistors manufactured by the epitaxial planar process designed for general purpose amplifier and switching applications.

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

	SYMBOL	PN5135	PN5136	PN5137	UNIT
Collector-Base Voltage	V_{CB0}	30	30	30	V
Collector-Emitter Voltage	V_{CES}	30	30	30	V
Collector-Emitter Voltage	V_{CE0}	25	20	20	V
Emitter-Base Voltage	V_{EB0}	4.0	3.0	3.0	V
Collector Current	I_C	200	500	500	mA
Power Dissipation	P_D	625	625	625	mW
Power Dissipation ($T_C=25^\circ\text{C}$)	P_D	1.0	1.0	1.0	W
Operating and Storage					
Junction Temperature	T_J, T_{STG}	-65 to +150			$^\circ\text{C}$
Thermal Resistance	θ_{JA}	0.20			$^\circ\text{C/W}$
Thermal Resistance	θ_{JC}	125			$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	PN5135		PN5136		PN5137		UNIT
		MIN	MAX	MIN	MAX	MIN	MAX	
I_{CB0}	$V_{CB}=15\text{V}$		300		-		-	nA
I_{CB0}	$V_{CB}=20\text{V}$		-		100		100	nA
I_{CB0}	$V_{CB}=15\text{V}, T_A=65^\circ\text{C}$		10		-		-	μA
I_{CB0}	$V_{CB}=20\text{V}, T_A=65^\circ\text{C}$		-		10		10	μA
I_{EB0}	$V_{EB}=4.0\text{V}$		10		-		-	μA
I_{EB0}	$V_{EB}=2.0\text{V}$		-		100		100	nA
BV_{CB0}	$I_C=100\mu\text{A}$	30		30		30		V
BV_{CES}	$I_C=100\mu\text{A}$	30		30		30		V
BV_{CE0}	$I_C=10\text{mA}$	25		20		20		V
BV_{EB0}	$I_E=10\mu\text{A}$	4.0		3.0		3.0		V
$V_{CE}(\text{SAT})$	$I_C=100\text{mA}, I_B=10\text{mA}$		1.0		-		-	V
$V_{CE}(\text{SAT})$	$I_C=150\text{mA}, I_B=15\text{mA}$		-		0.25		0.25	V
$V_{BE}(\text{ON})$	$V_{CE}=10\text{V}, I_C=100\text{mA}$		1.0		-		-	V
$V_{BE}(\text{ON})$	$V_{CE}=10\text{V}, I_C=150\text{mA}$		-		1.1		1.1	V
$V_{BE}(\text{SAT})$	$I_C=100\text{mA}, I_B=10\text{mA}$		1.0		-		-	V
$V_{BE}(\text{SAT})$	$I_C=150\text{mA}, I_B=15\text{mA}$		-		1.1		1.1	V
h_{FE}	$V_{CE}=1.0\text{V}, I_C=2.0\text{mA}$	15		-		-		
h_{FE}	$V_{CE}=1.0\text{V}, I_C=30\text{mA}$	-		20		20		
h_{FE}	$V_{CE}=1.0\text{V}, I_C=150\text{mA}$	-	-	20	400	20	400	
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	50	600	-	-	-	-	
f_T	$V_{CE}=5.0\text{V}, I_C=50\text{mA}, f=20\text{MHz}$	-	-	40	-	40	-	MHz
f_T	$V_{CE}=10\text{V}, I_C=30\text{mA}, f=20\text{MHz}$	40	-	-	-	-	-	MHz
C_{eb}	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		-		85		85	pF
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		25		35		35	pF

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).

CONTACT US

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