

# Central<sup>TM</sup> Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

2N3734  
2N3735

NPN SILICON TRANSISTORS

JEDEC TO-39 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N3734, 2N3735 types are Silicon NPN Transistors in a hermetically sealed case designed for core driver and high speed switching applications.

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

	SYMBOL	2N3734	2N3735	UNIT
Collector-Base Voltage	$V_{CB0}$	50	75	V
Collector-Emitter Voltage	$V_{CE0}$	30	50	V
Emitter-Base Voltage	$V_{EB0}$	5.0	5.0	V
Collector Current	$I_C$	1.5	1.5	A
Power Dissipation	$P_D$	1.0	1.0	W
Power Dissipation ( $T_C=25^\circ\text{C}$ )	$P_D$	4.0	4.0	W
Operating and Storage Junction Temperature	$T_J, T_{stg}$	-65 TO +200		$^\circ\text{C}$
Thermal Resistance	$\theta_{JA}$	175	175	$^\circ\text{C}/\text{W}$
Thermal Resistance	$\theta_{JC}$	43.75	43.75	$^\circ\text{C}/\text{W}$

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

SYMBOL	TEST CONDITIONS	2N3734		2N3735		UNIT
		MIN	MAX	MIN	MAX	
$I_{CEV}$	$V_{CE}=25\text{V}, V_{EB}=2.0\text{V}$		200	-		nA
$I_{CEV}$	$V_{CE}=25\text{V}, V_{EB}=2.0\text{V}, T_A=100^\circ\text{C}$		20	-		$\mu\text{A}$
$I_{CEV}$	$V_{CE}=40\text{V}, V_{EB}=2.0\text{V}$		-	200		nA
$I_{CEV}$	$V_{CE}=40\text{V}, V_{EB}=2.0\text{V}, T_A=100^\circ\text{C}$		-	20		$\mu\text{A}$
$I_{BL}$	$V_{CE}=25\text{V}, V_{EB}=2.0\text{V}$		300	-		nA
$I_{BL}$	$V_{CE}=40\text{V}, V_{EB}=2.0\text{V}$		-	300		nA
$BV_{CB0}$	$I_C=10\mu\text{A}$	50		75		V
$BV_{CE0}$	$I_C=10\text{mA}$	30		50		V
$BV_{EB0}$	$I_E=10\mu\text{A}$	5.0		5.0		V
$V_{CE}(\text{SAT})$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.2		0.2	V
$V_{CE}(\text{SAT})$	$I_C=150\text{mA}, I_B=15\text{mA}$		0.3		0.3	V
$V_{CE}(\text{SAT})$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.5		0.5	V
$V_{CE}(\text{SAT})$	$I_C=1.0\text{A}, I_B=100\text{mA}$		0.9		0.9	V
$V_{BE}(\text{SAT})$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.8		0.8	V
$V_{BE}(\text{SAT})$	$I_C=150\text{mA}, I_B=15\text{mA}$		1.0		1.0	V
$V_{BE}(\text{SAT})$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.2		1.2	V
$V_{BE}(\text{SAT})$	$I_C=1.0\text{A}, I_B=100\text{mA}$	0.9	1.4	0.9	1.4	V
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=10\text{mA}$	35		35		
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=150\text{mA}$	40		40		
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=500\text{mA}$	35		35		
$h_{FE}$	$V_{CE}=1.5\text{V}, I_C=1.0\text{A}$	30	120	20	80	
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=1.5\text{A}$	30		20		
$f_T$	$V_{CE}=10\text{V}, I_C=50\text{mA}, f=100\text{MHz}$	250		250		MHz
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=100\text{kHz}$		9.0		9.0	pF
$C_{ib}$	$V_{BE}=0.5\text{V}, I_C=0, f=100\text{kHz}$		80		80	pF
$t_{on}$	$V_{CC}=30\text{V}, V_{BE}(\text{OFF})=2.0\text{V}, I_C=1.0\text{A}, I_{B1}=100\text{mA}$		48		48	ns
$t_{off}$	$V_{CC}=30\text{V}, I_C=1.0\text{A}, I_{B1}=I_{B2}=100\text{mA}$		60		60	ns
$Q_T$	$V_{CC}=30\text{V}, I_C=1.0\text{A}, I_B=100\text{mA}$		10		10	nC

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### 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

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### DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2<sup>nd</sup> 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

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### 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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### CONTACT US

#### Corporate Headquarters & Customer Support Team

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