

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

2N2604
2N2605

PNP SILICON TRANSISTOR

JEDEC TO-46 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N2604, 2N2605 types are Silicon PNP Transistors designed for low-level, low noise, high gain amplifier applications.

MAXIMUM RATINGS (T_A = 25°C)

	SYMBOL		UNITS
Collector-Base Voltage	V _{CBO}	60	V
Collector-Emitter Voltage	V _{CEO}	45	V
Emitter-Base Voltage	V _{EBO}	6.0	V
Collector Current	I _C	30	mA
Power Dissipation	P _D	400	mW
Operating and Storage			
Junction Temperature	T _J , T _{stg}	-65 to +200	°C
Thermal Resistance	θ _{JA}	438	°C/W

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I _{CES}	V _{CE} = 45V		10	nA
I _{CES}	V _{CE} = 45V, T _A = 170°C		10	μA
I _{CBO}	V _{CB} = 45V		10	nA
I _{EBO}	V _{EB} = 5.0V		2.0	nA
BV _{CBO}	I _C = 10μA	60		V
BV _{CEO}	I _C = 10mA	45		V
BV _{EBO}	I _E = 10μA	6.0		V
V _{CE(SAT)}	I _C = 10mA, I _B = 0.5mA		0.5	V
V _{BE(SAT)}	I _C = 10mA, I _B = 0.5mA	0.7	0.9	V
h _{FE}	V _{CE} = 5.0V, I _C = 10μA (2N2604)	40	120	-
h _{FE}	V _{CE} = 5.0V, I _C = 10μA (2N2605)	100	300	-
h _{FE}	V _{CE} = 5.0V, I _C = 10μA, T _A = -55°C (2N2604)	10		-
h _{FE}	V _{CE} = 5.0V, I _C = 10μA, T _A = -55°C (2N2605)	20		-
h _{FE}	V _{CE} = 5.0V, I _C = 500μA (2N2604)	60		-
h _{FE}	V _{CE} = 5.0V, I _C = 500μA (2N2605)	150		-
h _{FE}	V _{CE} = 5.0V, I _C = 10mA (2N2604)		350	-
h _{FE}	V _{CE} = 5.0V, I _C = 10mA (2N2605)		600	-

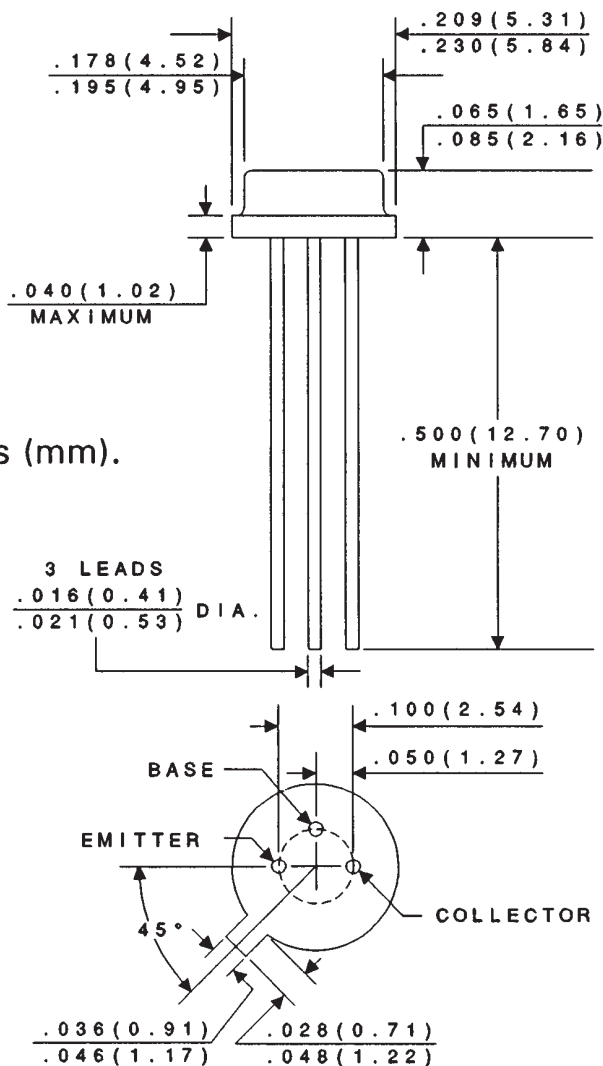
(Continued on Reverse Side)

ELECTRICAL CHARACTERISTICS (Continued)

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MAX</u>	<u>UNITS</u>
f_T	$V_{CE}=5.0V, I_C=500\mu A, f=30MHz$	30		MHz
C_{ob}	$V_{CB}=5.0V, I_E=0, f=1.0MHz$		6.0	pF
h_{ie}	$V_{CE}=5.0V, I_C=1.0mA, f=100MHz$		200	Ω
h_{ib}	$V_{CB}=5.0V, I_E=1.0mA, f=1.0kHz$	25	35	Ω
h_{rb}	$V_{CB}=5.0V, I_E=1.0mA, f=1.0kHz$		10	10^{-4}
h_{ob}	$V_{CB}=5.0V, I_E=1.0mA, f=1.0kHz$		1.0	μmho
h_{fe}	$V_{CB}=5.0V, I_E=1.0mA, f=1.0kHz$ (2N2604)	60	350	-
h_{fe}	$V_{CB}=5.0V, I_E=1.0mA, f=1.0kHz$ (2N2605)	150	600	-
NF	$V_{CE}=5.0V, I_C=10\mu A, R_G=10k\Omega, f=10Hz$ to 15.7kHz (2N2604)		4.0	dB
NF	$V_{CE}=5.0V, I_C=10\mu A, R_G=10k\Omega, f=10Hz$ to 15.7kHz (2N2605)		3.0	dB

JEDEC TO-46 - MECHANICAL OUTLINE

All Dimensions in Inches (mm).



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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For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: www.centalsemi.com/terms



<http://www.centrasemi.com>

Product End of Life Notification

PDN ID:	PDN01013
Notification Date:	12/14/15
Last Buy Date:	6/14/16
Last Shipment Date	12/14/16

Summary: All transistors manufactured in the TO-46 package are discontinued and now classified as End of Life (EOL).

Although Central Semiconductor Corp. makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by various manufacturers, it is an accepted industry practice to discontinue certain devices when customer demand falls below a minimum level of sustainability. Accordingly, the following product(s) have been transitioned to End of Life status as part of Central's Product Management Process. Any replacement product will be noted below. The effective date for placing the last purchase order will be six(6) months from the date of this notice and twelve(12) months from the notice date for final shipments; this may be extended if inventory is available.

Central Part Number	Replacement
2N2604	2N3963
2N2605	2N3963
2N3486	2N2907A
2N3486A	2N2907A
2N3508	2N2368
2N3509	2N2369A
2N5582	2N2222A

Central would be happy to assist you by providing additional information or technical data to help locate an alternate source if we have no replacement available. Please email your requests to engineering@centrasemi.com.

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.