

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

2N5151 2N5153 PNP
2N5152 2N5154 NPN

COMPLEMENTARY SILICON
POWER TRANSISTORS

JEDEC TO-39 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N5151 series types are complementary silicon transistors manufactured by the epitaxial planar process mounted in a hermetically sealed metal case, designed for high current switching applications.

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

	SYMBOL	2N5151	2N5153	2N5152	2N5154	UNIT
Collector-Base Voltage	V _{CB0}	100		100		V
Collector-Emitter Voltage	V _{CEO}	80		80		V
Emitter-Base Voltage	V _{EB0}	5.5		6.0		V
Collector Current	I _C	5.0		2.0		A
Collector Current (Peak)	I _{CM}	10		10		A
Base Current	I _B	2.5		1.0		A
Power Dissipation ($T_A=25^\circ\text{C}$)	P _D	1.0		1.0		W
Power Dissipation ($T_C=50^\circ\text{C}$)	P _D	10		10		W
Operating and Storage Junction Temperature	T _J , T _{STG}		-65 TO +200			$^\circ\text{C}$
Thermal Resistance	θ_{JA}		175			$^\circ\text{C}/\text{W}$
Thermal Resistance	θ_{JC}		15			$^\circ\text{C}/\text{W}$

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

SYMBOL	TEST CONDITIONS	2N5151		2N5152		2N5153		2N5154		UNIT
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
I _{CES}	V _{CE} =60V		1.0		1.0		1.0		1.0	μA
I _{CES}	V _{CE} =100V		1.0		1.0		1.0		1.0	mA
I _{CEV}	V _{CE} =60V, V _{BE} =2.0V, $T_C=150^\circ\text{C}$		500		500		500		500	μA
I _{CEO}	V _{CE} =40V		50		50		50		50	μA
I _{EBO}	V _{EB} =4.0V (PNP types only)		1.0		-		1.0		-	μA
I _{EBO}	V _{EB} =5.5V (PNP types only)		1.0		-		1.0		-	mA
I _{EBO}	V _{EB} =5.0V (NPN types only)		-		1.0		-		1.0	μA
I _{EBO}	V _{EB} =6.0V (NPN types only)		-		1.0		-		1.0	mA
BV _{CEO}	I _C =100mA	80		80		80		80		V
V _{CE(SAT)}	I _C =2.5A, I _B =250mA		0.75		0.75		0.75		0.75	V
V _{CE(SAT)}	I _C =5.0A, I _B =500mA		1.5		1.5		1.5		1.5	V
V _{BE(SAT)}	I _C =2.5A, I _B =250mA		1.45		1.45		1.45		1.45	V
V _{BE(SAT)}	I _C =5.0A, I _B =500mA		2.2		2.2		2.2		2.2	V
V _{BE(ON)}	V _{CE} =5.0V, I _C =250mA		1.45		1.45		1.45		1.45	V
h _{FE}	V _{CE} =5.0V, I _C =50mA	20		20		50		50		
h _{FE}	V _{CE} =5.0V, I _C =2.5A	30	90	30	90	70	200	70	200	
h _{FE}	V _{CE} =5.0V, I _C =2.5A, $T_C=-55^\circ\text{C}$	15		15		35		35		
h _{FE}	V _{CE} =5.0V, I _C =5.0A	20		20		40		40		
h _{fe}	V _{CE} =5.0V, I _C =0.1A, f=1.0kHz	20		20		50		50		
f _T	V _{CE} =5.0V, I _C =0.5A, f=20MHz	60		60		70		70		MHz
C _{ob}	V _{CB} =10V, I _B =0, f=1.0MHz		250		250		250		250	pF
t _{ON}	V _{CC} =30V, I _C =5.0A, I _{B1} =0.5A	0.5	TYP	0.5	TYP	0.5	TYP	0.5	TYP	μs
t _{OFF}	V _{CC} =30V, I _C =5.0A, I _{B1} =I _{B2} =0.5A	1.3	TYP	1.3	TYP	1.3	TYP	1.3	TYP	μs

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

Corporate Headquarters & Customer Support Team

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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.centrasemi.com/terms



http://www.centrasemi.com

Product End of Life Notification

PDN ID:	PDN01192
Notification Date:	10/19/21
Last Buy Date:	4/19/22
Last Shipment Date	10/19/22

Summary: The following through-hole transistors are discontinued and now classified as of 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 other 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 ongoing Product Management Process. Any replacement products are noted below. The effective date for placing last purchase orders will be six (6) months from the date of this notice and twelve (12) months from the notice date for final shipments, and minimum order quantities may apply. The last purchase and shipment dates may be extended if inventory is available.

*** All Plating types (PBFREE,TIN/LEAD) for each item listed are included in this notice.**

Central Part Number	Suggested Replacement
BU911	N/A
CEN597	N/A
MJE3055T	N/A
MJ4034	N/A
2N2483	N/A
2N2540	N/A
2N3735	N/A
2N4407	N/A
2N5154	N/A
2N5337	N/A
2N6101	N/A
2N6488	N/A

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. If you would like assistance, please visit <https://my.centrasemi.com/submit-inquiry?type=ER> to submit an online inquiry.

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.