

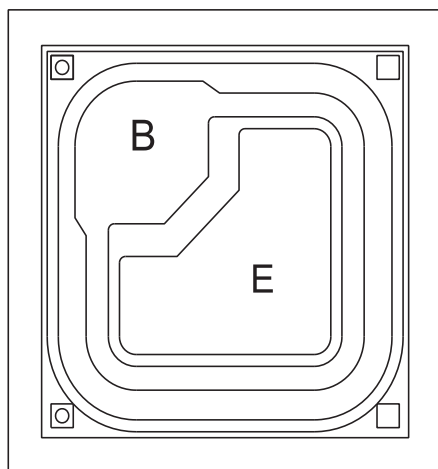
PROCESS CP188
Small Signal Transistor
NPN - Low Noise Amplifier Transistor Chip



PROCESS DETAILS

Process	EPITAXIAL PLANAR
Die Size	14.6 x 14.6 MILS
Die Thickness	9.0 MILS
Base Bonding Pad Area	3.9 x 3.9 MILS
Emitter Bonding Pad Area	5.5 x 5.5 MILS
Top Side Metalization	Al - 30,000Å
Back Side Metalization	Au-As - 18,000Å

GEOMETRY



BACKSIDE COLLECTOR

GROSS DIE PER 4 INCH WAFER

54,599

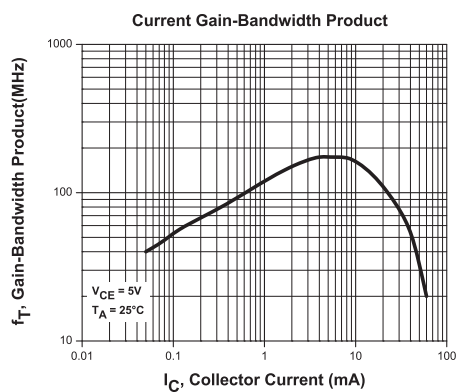
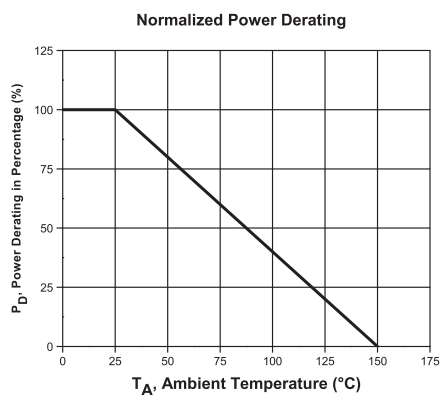
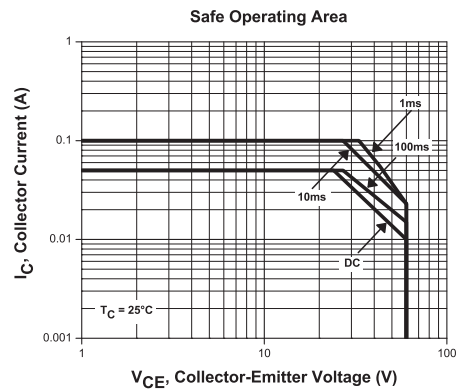
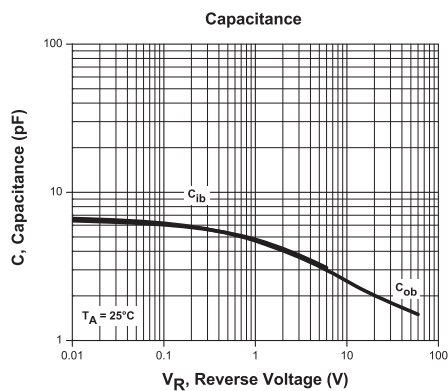
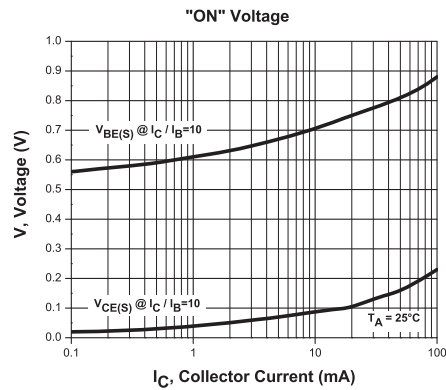
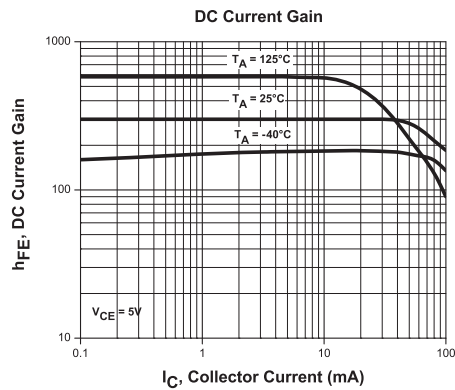
PRINCIPAL DEVICE TYPES

CMPT2484
CMPT5088
CMPT5089
CMPT6428
CMPT6429
2N2484

R5 (22-March 2010)

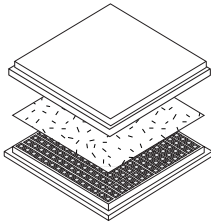
PROCESS CP188

Typical Electrical Characteristics



R5 (22-March 2010)

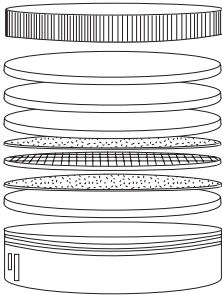
BARE DIE PACKING OPTIONS



BARE DIE IN TRAY (WAFFLE) PACK

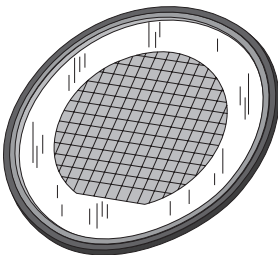
CT: Singulated die in tray (waffle) pack.
(example: CP211-PART NUMBER-CT)

CM: Singulated die in tray (waffle) pack 100% visually inspected as per MIL-STD-750, (method 2072 transistors, method 2073 diodes).
(example: CP211-PART NUMBER-CM)



UNSAWN WAFER

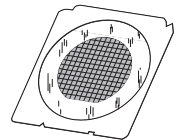
WN: Full wafer, unsawn, 100% tested with reject die inked.
(example: CP211-PART NUMBER-WN)



SAWN WAFER ON PLASTIC RING

WR: Full wafer, sawn and mounted on plastic ring,
100% tested with reject die inked.
(example: CP211-PART NUMBER-WR)

Please note: Sawn Wafer on Metal Frame (WS) is possible as a special order. Please contact your Central Sales Representative at 631-435-1110.



Visit the Central website for a complete listing of specifications:
www.centrasemi.com/bdspecs

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

Central Semiconductor Corp.
145 Adams Avenue
Hauppauge, NY 11788 USA
Main Tel: (631) 435-1110
Main Fax: (631) 435-1824
Support Team Fax: (631) 435-3388
www.centrasemi.com

Worldwide Field Representatives:
www.centrasemi.com/wwreps

Worldwide Distributors:
www.centrasemi.com/wwdistributors

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:	PDN01147
Notification Date:	3/13/20
Last Buy Date:	9/13/20
Last Shipment Date	3/13/21

Summary: The CP188 and CP588 wafer processes are being discontinued and are now classified as End of Life (EOL). The replacement wafer processes are the CP388X and CP788X, respectively.

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.

Central Part Number	Replacement
CP188-BC107A-CT	CP388X-BC107A-CT
CP188-BC108-CT	CP388X-BC108-CT
CP188-BC546B-CT	CP388X-BC546B-CT
CP188-BC546B-WR	CP388X-BC546B-WR
CP188-2N2919-CT	CP388X-2N2919-CT
CP188-2N5088-CT	CP388X-2N5088-CT
CP588-BCY70-WN	CP788X-BCY70-WN
CP588-BC556B-CT	CP788X-BC556B-CT
CP588-BC556B-WN	CP788X-BC556B-WN
CP588-BC556B-WR	CP788X-BC556B-WR
CP588-HBC556B-CM	CP788X-HBC556B-CM
CP588-2N2605-CT	CP788X-2N2605-CT
CP588-2N2605-WN	CP788X-2N2605-WN

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.

Product End of Life Notification

PDN ID:	PDN00999
Notification Date:	8/03/15
Last Buy Date:	Varies
Last Shipment Date	Varies

Summary: The purpose of this End of Life Notification is to identify the bare die devices that Central previously discontinued without notification. This list excludes standard packaged and custom devices. The discontinuance of these devices predates Central's current EOL notification process. The notification process now utilized by Central is industry standard and all future product discontinuation notifications will be issued accordingly. We apologize for any inconvenience caused.

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.**

<u>Central Part Number</u>	<u>Replacement</u>
CPD35-CMP SH-3-WN	CPD48V-CMP SH-3-WN
CPD41-1N3600-WN	N/A, Stock Only
CPD41-1N4148-CT	N/A, Stock Only
CPD41-1N4150-CT	N/A, Stock Only
CPD42-CMR1-06-WN	CPD69-CMR1-06M-WN
CPD42-CMR1-10-WN	CPD69-1N4007-WN
CPD63-1N4148-CT	CPD83V-1N4148-CT
CPD63-1N4148-CTAN	CPD83V-1N4148-CTAN
CPD63-1N4148-WN	CPD83V-1N4148-WN
CPD63-1N4148-WS	CPD83V-1N4148-WS
CPD63-1N4448-WN	CPD83V-1N4448-WN
CPD63-1N4454-CT	CPD83V-1N4454-CT
CPD63-1N914-CT	CPD83V-1N914-CT
CPD63-1N914-WN	CPD83V-1N914-WN
CPD63-1N914-WR	CPD83V-1N914-WR
CPD63-1N914A-WN	CPD83V-1N914A-WN
CPD64-CLL459A-CT	CPD66X-CLL459A-CT
CPD64-CMPD3003-CT	CPD66X-CMPD3003-CT
CPD64-CMPD3003-WN	CPD66X-CMPD3003-WN
CPD64-1N3595-CT	CPD66X-1N3595-CT
CPD64-1N3595-WN	CPD66X-1N3595-WN
CPD64-1N3595-WR	CPD66X-1N3595-WR
CPD64-1N485B-CT	CPD66X-1N485B-CT
CPD73-CMFBR-6F-WN	N/A, Stock Only
CPD77-1N5820-WN	CPD77X-1N5820-WN
CPD81-CZSH5-40-CT	CPD81X-CZSH5-40-CT
CPD86X-CZSH5-40-CT	CPD81X-CZSH5-40-CT
CPD92-CMPD6263-CT	CPD102X-CMPD6263-CT
CPD92-CMUD6263E-CT	CPD102X-6263E-CT
CPD92X-CMPD6263-WR	CPD102X-CMPD6263-WR
CPD99-MBR1645-CT	N/A, Stock Only
CPZ18-CMOZ3L9-CT	CPZ28X-CMOZ3L9-CT

*** CONTINUED ***

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.

Product End of Life Notification

PDN ID:	PDN00999
Notification Date:	8/03/15
Last Buy Date:	Varies
Last Shipment Date	Varies

*** CONTINUED FROM PRIOR PAGE ***

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

Central Part Number	Replacement
CPZ18-CMPZ4626-CT	CPZ28X-1N4626-CT
CPZ18-CMPZ4626-WN	CPZ28X-CMPZ4626-WN
CPZ18-CMPZ5231B-CT	CPZ28X-CMPZ5231B-CT
CPZ18-CMPZ5232B-CT	CPZ28X-1N5232B-CT
CPZ18-1N4622-CT	CPZ28X-1N4622-CT
CPZ18-1N4626-WN	CPZ28X-CMPZ4626-WN
CPZ18-1N5231B-CT	CPZ28X-CMPZ5231B-CT
CPZ18-1N5232B-CT	CPZ28X-1N5232B-CT
CPZ18-1N5232B-CTAN	CPZ28X-1N5232B-CT
CPZ18-1N5524B-CT	CPZ28X-1N5524B-CT
CPZ18-1N751A-CT	CPZ28X-1N751A-CT
CPZ18-1N752A-CT	N/A, Stock Only
CPZ19-BZX84C39-CT	N/A, Stock Only
CPZ19-BZX84C8V2-WN	N/A, Stock Only
CPZ19-CMPZ5236B-CT	CPZ28X-CMPZ5236B-CT
CPZ19-CMPZ5241B-WN	N/A, Stock Only
CPZ19-CMPZ5244B-CT	CPZ28-CMPZ5244B-CT
CPZ19-CMPZ5246B-WN	N/A, Stock Only
CPZ19-CMPZ5254B-WN	CPZ28X-CMPZ5254B-WN
CPZ19-CMPZ5258B-CT	N/A, Stock Only
CPZ19-CMPZ5258B-WN	N/A, Stock Only
CPZ19-1N4753A-WN	CPZ25-1N4753A-WN
CPZ19-1N5236B-CT200	CPZ28X-5236B-CT200
CPZ19-1N5244B-CT	CPZ28X-1N5244B-CT
CPZ19-1N5258B-WN	N/A, Stock Only
CPZ19-1N6001B-CT	CPZ28-1N6001B-CT
CPZ19-1N6001B-WN	CPZ28-1N6001B-WN
CPZ28-BZX84C39-WR	CPZ28X-BZX84C39-WR
CP108-CRSH2-4-CT	N/A, Stock Only
CP108-CRSH2-5-CT	N/A, Stock Only
CP108-1N5819-CT	N/A, Stock Only
CP117-TIP112-CT	CP230-TIP122-CT
CP117-TIP121-CT	CP230-TIP122-CT
CP117-2N6045-CT	CP127-2N6045-CT
CP117-2N6300-CT	CP127-2N6300-CT
CP117-2N6301-CT	CP127-2N6301-CT
CP117-2N6301-WS	CP127-2N6301-WS
CP142-2N4240-CT	CP212-2N4240-CT
CP160-MPSA42-CT	CP310-MPSA42-CT
CP169-2N5179-WN	N/A, Stock Only
CP177-TIP50-WN	N/A, Stock Only
CP183-2N5320-CT	CP325V-2N5320-CT
CP188-BCW72-CT	N/A, Stock Only

*** CONTINUED ***

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.

Product End of Life Notification

PDN ID:	PDN00999
Notification Date:	8/03/15
Last Buy Date:	Varies
Last Shipment Date	Varies

*** CONTINUED FROM PRIOR PAGE ***

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

Central Part Number	Replacement
CP188-BC237B-CT	N/A, Stock Only
CP188-CMPT5089-CT	CP388X-2N5089-CT
CP188-CMPT5089-WN	N/A, Stock Only
CP188-2N2484-CT	CP388X-2N2484-CT
CP188-2N2484-WN	CP388X-2N2484-WN
CP188-2N2920-CTJ	N/A, Stock Only
CP188-2N5088-CTO	CP388X-2N5088-CT
CP188V-BCX70K-WR	CP388X-BCX70K-WR
CP188V-2N5088-CT	CP388X-2N5088-CT
CP191-2N2219A-CT	N/A, Stock Only
CP191-2N2222A-CT	CP191V-2N2222A-CT
CP191-2N2222A-WN	CP191V-2N2222A-WN
CP191-2N2222A-WR	CP191V-2N2222A-WR
CP191-2N2222A-WS	CP191V-2N2222A-WR
CP195-2N3501-CT	CP318V-2N3501-CT
CP195-2N3501-WN	CP318V-2N3501-WN
CP195-2N5682-CT	CP318V-2N5682-CT
CP195-2N5682-WN	CP318V-2N5682-WN
CP207-2N2369A-CT	CP396V-2N2369A-CT
CP207-2N2369A-WN	CP396V-2N2369A-WN
CP237-2N3725-CT	CP337V-2N3725-WN
CP301-2N3439-CT	CP310-2N3439-CT
CP303V-CMPT8099-CT	CP303X-CMPT8099-CT
CP303V-CMPT8099-WN	CP303X-CMPT8099-WN
CP305-MJE182-CT	CP325V-MJE182-CT
CP314-MPS650-CT	CP314V-MPS650-CT
CP316-2N5551-CT	CP336V-2N5551-CT
CP316V-2N5551-CT	CP336V-2N5551-CT
CP316V-2N5551-CTAN	N/A, Stock Only
CP316V-2N5551-WN	CP336V-2N5551-WN
CP317-2N2857-CT	N/A, Stock Only
CP317-2N918-CT	N/A, Stock Only
CP319-CZTA44HC-CT	CP212-CZTA44HC-CT
CP319-TIP47-CT	CP212-TIP47-CT
CP319-TIP50-CT	CP212-TIP50-CT
CP324-2N7002-CM	N/A, Stock Only
CP324-2N7002-CT	N/A, Stock Only
CP324-2N7002-WN	N/A, Stock Only
CP336V-2N5551-CTAN	CP336V-2N5551-CT
CP353-2N3506-CT	CP353V-2N3506-CT
CP512-2N4033-CT	CP705V-CZT4033-CT
CP512-2N4033-WN	CP705V-CZT4033-WN
CP517-BDX54C-WS	CP527-BDX54C-WR

*** CONTINUED ***

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.

Product End of Life Notification

PDN ID:	PDN00999
Notification Date:	8/03/15
Last Buy Date:	Varies
Last Shipment Date	Varies

*** CONTINUED FROM PRIOR PAGE ***

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

Central Part Number	Replacement
CP517-TIP126-CT	CP630-TIP127-CT
CP517-2N6042-CT	CP527-2N6042-CT
CP517-2N6053-CM	CP527-2N6053-CM
CP517-2N6053-CT	CP527-2N6053-CT
CP517-2N6296-CT	CP527-2N6296-CT
CP517-2N6299-CT	CP527-2N6299-CT
CP517-2N6299-WS	CP527-2N6299-WR
CP517-2N6668-CT	CP527-2N6668-CT
CP529-CMPT2907A-WN	N/A, Stock Only
CP548-2N5116-WN	N/A, Stock Only
CP555-2N4209-WN	CP742X-CM4209-WN
CP559-2N2907A-WN	N/A, Stock Only
CP560-MPSA92-CT	CP710V-MPSA92-CT
CP560-MPSA92-WN	CP710V-MPSA92-WN
CP560-2N6520-WN	CP710V-2N6520-WN
CP584-2N5401-CTAN	N/A, Stock Only
CP584-2N5401-WN	N/A, Stock Only
CP587-2N3964-WN	N/A, Stock Only
CP588-BCW70-CT	CP788X-BCW70-CT
CP588-2N3799-WN	CP788X-2N3799-CT
CP588-2N5087-CT	N/A, Stock Only
CP588V-BC556B-WR	N/A, Stock Only
CP588V-2N2605-CT	CP788X-2N2605-CT
CP588V-2N3799-WN	N/A, Stock Only
CP588V-2N5087-CT	CP788X-2N5087-CT
CP591-2N2907A-CT	CP591X-2N2907A-CT
CP591V-2N2907A-CT	CP591X-2N2907A-CT
CP592-CMPT3906-CT	CP792V-CMPT3906-CT
CP592-2N3251-CT	CP792V-2N3251-CT
CP592-2N3906-WN	CP792V-2N3906-WN
CP701-2N5416-CT	CP710V-2N5416-CT
CP705-BC327-25-CT	N/A, Stock Only
CP705-BC327-40-CT	N/A, Stock Only
CP705-BC807-40-CT	N/A, Stock Only
CP705-BD140-CT	N/A, Stock Only
CP705-CZT4033-CT	CP705V-CZT4033-CT
CP705-D41D11-CT	CP705V-D41D11-CT
CP705-D41D11-CT200	CP705V-D41D11-CT200
CP705-2N4356-CT	N/A, Stock Only
CP705-2N4356-WN	N/A, Stock Only
CP707-MPSA64-WN	CP727V-MPSA64-WN
CP707-MPSU95-CT	CP727V-MPSU95-CT
CP710-CMPTA94-CT	CP710V-CMPTA94-CT

*** CONTINUED ***

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.



<http://www.centrasemi.com>

Product End of Life Notification

PDN ID:	PDN00999
Notification Date:	8/03/15
Last Buy Date:	Varies
Last Shipment Date	Varies

*** CONTINUED FROM PRIOR PAGE ***

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

Central Part Number	Replacement
CP710-MJE350-CT	N/A, Stock Only
CP710-MPSA92-CT	CP710V-MPSA92-CT
CP714-MPS750-CT	CP714V-MPS750-CT
CP714-MPS751-CT	N/A, Stock Only
CP714-MPS751-WN	N/A, Stock Only
CP716-CMPT5401-CM	N/A, Stock Only
CP716-CMPT5401-CT	N/A, Stock Only
CP716-2N5401-CTAN	N/A, Stock Only
CP716V-CMPT5401-CM	N/A, Stock Only
CP716V-2N3635-CM	CP736V-2N3635-CM
CP716V-2N3635-CT	CP736V-2N3635-CT
CP716V-2N5401-CT	CP736V-2N5401-CT
CP716V-2N5401-CTAN	CP736V-2N5401-CTAN
CP716V-2N5401-WN	CP736V-2N5401-WN
CP792V-2N3906-CT	CP792V-CMPT3906-CT

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.

Product End of Life Notification

PDN ID:	PDN01242
Notification Date:	8/11/22
Last Buy Date:	2/11/23
Last Shipment Date	8/11/23

Summary: The following bare die transistor devices 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 Portfolio Management. 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
CPP55-BC177-CT	N/A
CP188-BC546B-CM	CP388X-BC546B-CT
CP212-CZTA44HC-CT	N/A
CP235-2N3055-CT	N/A
CP235-2N3715-CT	N/A
CP588-BC556B-CM	CP788X-BC556B-CT
CP608-H2N3741-CM	N/A
CP608-TIP32C-CM	N/A
CP608-TIP32C-CT	N/A
CP608-TIP32C-WN	N/A
CP608-2N3741-CT	N/A
CP608-2N6475-CT	N/A
CP611-TIP42-CT	N/A
CP611-TIP42C-CT	N/A
CP611-TIP42C-WN	N/A
CP611-2N5955-CT	N/A
CP611-2N6107-CM	N/A
CP611-2N6107-CT	N/A
CP645-MJE15031-CM	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.