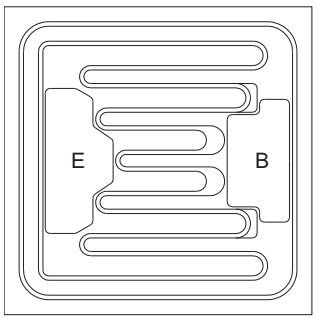
CP305V-2N718A

NPN - Small Signal Transistor Die

50 Volt

www.centralsemi.com

The CP305V-2N718A is a silicon NPN small signal transistor designed for general purpose amplifier and switching applications.



BACKSIDE COLLECTOR R2

MECHANICAL SPECIFICATIONS:

Die Size	31.1 x 31.1 MILS
Die Thickness	7.1 MILS
Base Bonding Pad Size	5.9 x 11.8 MILS
Emitter Bonding Pad Size	6.5 x 13.8 MILS
Top Side Metalization	Al – 13,000Å
Back Side Metalization	Au/As-Au – 9,000Å
Scribe Alley Width	1.96 MILS
Wafer Diameter	5 INCHES
Gross Die Per Wafer	17,534

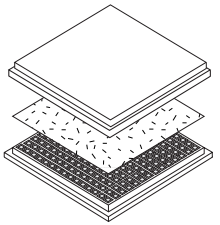
MAXIMUM RATINGS: (T_A=25°C)	**SYMBOL**		**UNITS**
Collector-Base Voltage	V_{CBO}	75	V
Collector-Emitter Voltage	V_{CER}	50	V
Emitter-Base Voltage	V_{EBO}	7.0	V
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	°C

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

SYMBOL	**TEST CONDITIONS**	**MIN**	**MAX**	**UNITS**
I_{CBO}	V_{CB}=60V		10	nA
I_{EBO}	V_{EB}=5.0V		10	nA
BV_{CBO}	I_C=100µA	75		V
BV_{CER}	I_C=100mA, R_{BE}=10Ω	50		V
BV_{EBO}	I_E=100µA	7.0		V
$V_{CE(SAT)}$	I_C=150mA, I_B=15mA		1.5	V
$V_{BE(SAT)}$	I_C=150mA, I_B=15mA		1.3	V
h_{FE}	V_{CE}=10V, I_C=0.1mA	20		
h_{FE}	V_{CE}=10V, I_C=10mA	35		
h_{FE}	V_{CE}=10V, I_C=150mA	40	120	
h_{FE}	V_{CE}=10V, I_C=500mA	20		
f_T	V_{CE}=10V, I_C=50mA, f=20MHz	60		MHz
C_{ob}	V_{CB}=10V, I_E=0, f=100kHz		25	pF
C_{ib}	V_{EB}=0.5V, I_C=0, f=100kHz		80	pF
h_{ib}	V_{CB}=5.0V, I_C=1.0mA, f=1.0kHz	24	34	Ω
h_{ib}	V_{CB}=10V, I_C=5.0mA, f=1.0kHz	4.0	8.0	Ω
h_{rb}	V_{CB}=5.0V, I_C=1.0mA, f=1.0kHz		3.0	$x10^{-4}$
h_{rb}	V_{CB}=10V, I_C=5.0mA, f=1.0kHz		3.0	$x10^{-4}$
h_{fe}	V_{CE}=5.0V, I_C=1.0mA, f=1.0kHz	30	100	
h_{fe}	V_{CE}=10V, I_C=5.0mA, f=1.0kHz	35	150	
h_{ob}	V_{CB}=5.0V, I_C=1.0mA, f=1.0kHz	0.05	0.5	µS
h_{ob}	V_{CB}=10V, I_C=5.0mA, f=1.0kHz	0.05	0.5	µS
NF	V_{CE}=10V, I_C=300µA, f=1.0kHz		12	dB

R0 (29-April 2019)

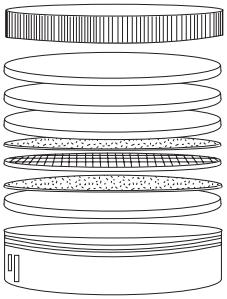
BARE DIE PACKING OPTIONS



BARE DIE IN TRAY (WAFFLE) PACK

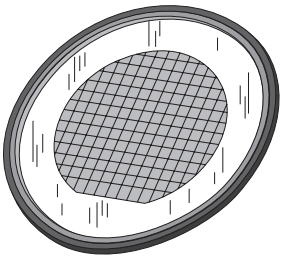
CT: Singulated die in tray (waffle) pack.
(example: CP211-PART NUMBER-CT)

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)



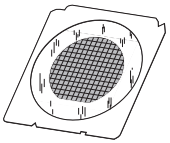
UNSAWN WAFER

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.centralsemi.com/bdspecs

R2 (3-April 2017)

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.centralsemi.com

Worldwide Field Representatives:
www.centralsemi.com/wwreps

Worldwide Distributors:
www.centralsemi.com/wwdistributors