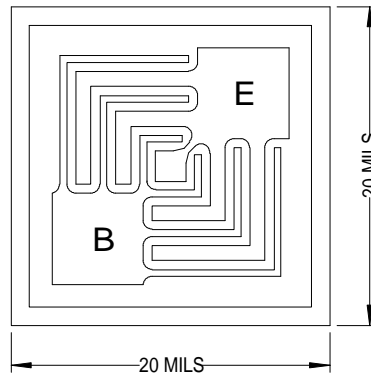


Chip Type 2C2222AKV
Geometry 0400
Polarity NPN

2N2219A
2N2222A

REF: MIL-PRF-19500L/255



[Request Quotation](#)

Chip type **2C2222AKV** by Semicoa Semiconductors meets the standards for MIL-PRF-19500L Appendix G, Class K and provides performance similar to these devices.

APPLICATIONS: Designed for general purpose switching and amplifier applications.

RADIATION: Consult factory for availability of Radiation Data for this device.

Product Summary

Part Number

[2N2222A](#), 2N2222, 2N2219, 2N2219A, 2N2219AL
[2N2N2222AUB](#), SD2222A, SD2222AF, SQ2222A,
 SQ2222AF, 2N5582, 2N6989, 2N6990

Features:

- Low $V_{CE(sat)}$ voltages
- High current-gain-bandwidth product

Mechanical Specifications		
Metallization	Top	Al - 24 kÅ
	Backside	Au - 6.5 kÅ
Bonding Pad Size	Emitter	4.0 mils x 4.0 mils
	Base	4.0 mils x 4.0 mils
Die Thickness	8 mils nominal	
Chip Area	20 mils x 20 mils	
Top Surface	Silox Passivated	

Electrical Characteristics				
$T_A = 25^\circ\text{C}$ (Group A2, A3)				
Parameter	Test conditions	Min	Max	Unit
I_{CBO1}	$V_{CB} = 75\text{ V dc}$	---	10	$\mu\text{A dc}$
I_{EBO1}	$V_{EB} = 6\text{ V dc}$	---	10	$\mu\text{A dc}$
$V_{(BR)CEO}$	Bias condition D; $I_C = 10\text{ mA dc}$; pulsed	50	---	V dc
I_{CES}	Bias condition C; $V_{CE} = 50\text{ V dc}$	---	50	nA dc
I_{CBO2}	Bias condition D; $V_{CB} = 60\text{ V dc}$	---	10	nA dc
I_{EBO2}	Bias condition D; $V_{EB} = 4\text{ V dc}$	---	10	nA dc
h_{FE1}	$V_{CE} = 10\text{ V dc}$; $I_C = 0.1\text{ mA dc}$	50	---	---
h_{FE2}	$V_{CE} = 10\text{ V dc}$; $I_C = 1.0\text{ mA dc}$	75	325	---
h_{FE3}	$V_{CE} = 10\text{ V dc}$; $I_C = 10\text{ mA dc}$	100	---	---
h_{FE4}	$V_{CE} = 10\text{ V dc}$; $I_C = 150\text{ mA dc}$; pulsed	100	300	---
h_{FE5}	$V_{CE} = 10\text{ V dc}$; $I_C = 500\text{ mA dc}$; pulsed	30	---	---
$V_{CE(sat)1}$	$I_C = 150\text{ mA dc}$; $I_B = 15\text{ mA dc}$; pulsed	---	0.3	V dc
$V_{CE(sat)2}$	$I_C = 500\text{ mA dc}$; $I_B = 50\text{ mA dc}$; pulsed	---	1.0	V dc
$V_{BE(sat)1}$	Test condition A; $I_C = 150\text{ mA dc}$; $I_B = 15\text{ mA dc}$; pulsed	0.6	1.2	V dc
$V_{BE(sat)2}$	Test condition A; $I_C = 500\text{ mA dc}$; $I_B = 50\text{ mA dc}$; pulsed	---	2.0	V dc
I_{CBO3}	Bias condition D; $V_{CB} = 60\text{ V dc}$	---	10	$\mu\text{A dc}$
h_{FE6}	$V_{CE} = 10\text{ V dc}$; $I_C = \text{mA dc}$	35	---	---

Due to the limitations of probe testing, only dc parameters are tested. This must be done with pulse width less than 300 μs , duty cycle less than 2%.

FLOWCHART MIL-PRF-19500L APPENDIX G

TABLE XII. Die element evaluation requirements

Sub-group	Class K	Test	MIL-STD-750		Quantity (accept no.)	Reference Paragraph
			Method	Condition		
1	x	Electrical Test			100 percent	G.5.2.1
2	x	Visual Inspection	2072		100 percent	G.5.2.2
3a	x	Internal / Die Inspection	2072		10(0)	G.5.2.3.1
3b	x	Sample Assembly			10 pieces min.	G.5.2.3.2
4	x	Stabilization	1032	C t = 24 hours min	10(0)	G.5.2.4.1
	x	Temperature cycling	1051	C		
	x	Mechanical Shock or Constant Acceleration	2016 2006	Y1 direction Y1 direction		
	x	Electrical Test (Read/Record)		Group A, Subgroups 2,3		
	x	HTRB		Screen 10		<u>1/</u>
	x	Electrical Test (Read/Record)		Group A, Subgroup 2		<u>2/</u>
	x	Burn-in		Screen 12		<u>1/</u>
	x	Electrical Test (Read/Record)		Group A, Subgroup 2		<u>2/</u>
	x	Steady state life Transistors	1039	B		<u>3/</u>
	x	Electrical Test (Read/Record)		Group A, Subgroups 2, 3		<u>2/</u>
5a	x	Wire Bond Evaluation	2037	Condition A	10(0) wires or 20(1) wires	G.5.2.5.1
5b	x	Die Shear Evaluation	2017		5(0) or 10(1)	G.5.2.5.2
6	x	SEM	2077		see test method 2077	G.5.2.6 <u>4/</u>

1/ HTRB and burn-in shall be performed when specified on the applicable performance specification sheet.

2/ Thermal Impedance shall not apply.

3/ Time and temperature requirements in accordance with table XI.

4/ May be performed at any time.