

SMD Codebook: Marking to Part Number

SMD MARKING DECODER REFERENCE

Quick identification of small-outline component top-side markings

3-CHARACTER SOT-23 TRANSISTOR MARKINGS (JEDEC)

Code	Device	Type	Polarity	Package
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1A	BC846A	NPN	CBE	SOT-23
1B	BC846B	NPN	CBE	SOT-23
1E	BC847A	NPN	CBE	SOT-23
1F	BC847B	NPN	CBE	SOT-23
1G	BC847C	NPN	CBE	SOT-23
2A	BC856A	PNP	CBE	SOT-23
2B	BC856B	PNP	CBE	SOT-23
A6	BAV99	Dual	-	SOT-23
A7	BAV70	Dual	-	SOT-23
K1	BZX84-C2V4	Zener	-	SOT-23
K2	BZX84-C2V7	Zener	-	SOT-23

COMMON SOT-23 MOSFETS

Code	Device	Chan	Vds(V)	Rds(on)	Id(A)
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702	2N7002	N-ch	60	7.5 Ohm	0.115
A04	AO3400	N-ch	30	28 mOhm	5.8
A09	AO3409	P-ch	-30	52 mOhm	-2.6
02	BSS138	N-ch	50	3.5 Ohm	0.22
A2SHB	AO3402	N-ch	30	44 mOhm	4.0
SS	SI2301	P-ch	-20	65 mOhm	-2.8

SOT-89 VOLTAGE REGULATORS

Code	Device	Vout	Iout(mA)	Type
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33	78L33	3.3V	100	Fixed LDO
50	78L05	5.0V	100	Fixed LDO
8A	AMS1117-3.3	3.3V	1000	Fixed LDO
8B	AMS1117-ADJ	Adjust	1000	Adj LDO

SOIC-8 OP-AMP MARKINGS

Marking	Device	Ch	BW(MHz)	Type
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LM358		LM358		2		0.7		Bipolar
TL072		TL072		2		3.0		JFET
OP07		OP07		1		0.6		Precision
NE5532		NE5532		2		10		Audio
MCP6002		MCP6002		2		1.0		CMOS RRIO
OPA2134		OPA2134		2		8.0		Audio FET

PRO ELECTRON SYSTEM (European Convention)

- First letter = Semiconductor material: A=Ge, B=Si, C=GaAs, R=Photovoltaic
- Second letter = Function: C=AF small-signal, D=AF power, F=RF/HF, Y=Rectifier, Z=Zener
- Example: BC547 = Silicon, AF small-signal transistor

JIS SYSTEM (Japanese Industrial Standard)

- Transistors: 2SA (PNP HF), 2SB (PNP AF), 2SC (NPN HF), 2SD (NPN AF)
- FETs: 2SJ (P-channel), 2SK (N-channel)
- Package markings often omit the 2S prefix: e.g., C1815 is actually 2SC1815

FIELD IDENTIFICATION TIPS

1. Count pins: 3 pins = discrete (transistor/FET/diode), 5+ pins = IC
2. Measure with multimeter in diode mode to identify NPN vs PNP vs MOSFET
3. Search marking code on reference sites: smd.yooneed.one, alltransistors.com
4. Check package type: SOT-23 (3-pin), SOT-89 (4-pin power), SOIC-8, etc.
5. Cross-reference unknown codes against manufacturer datasheets