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Selection guide 2018.

Discretes, Logic and MOSFETs



nexperia

EFFICIENCY WINS.

Introduction

Welcome to the 2018 edition of the Nexperia Selection Guide. Here we present all our Discrete, Logic and MOSFET devices in one single document to give you a complete overview of our portfolio. We hope that makes it even easier for you to find the right product for your design.

Our extensive portfolio offers a wide range of general purpose devices and those that meet the stringent standards set by the automotive industry. They are housed in some of the most advanced, industry-leading small packages that combine power and thermal efficiency with best-in-class quality levels.

Alongside quality and efficiency, Nexperia customers value reliability and a consistent supply they can trust. We produce consistently reliable semiconductor components at high volume (85 billion annually) and we work at every step to safeguard the long-term availability of our manufacturing processes and products, to ensure secure supply for all our customers.

We have a long history and broad experience. That ensures we can support you with the dedicated in-house technical support you need – from simplifying selection via quick-reference material to simple-to-use design tools and application insights. All to help drive up efficiency in your designs.

All the functionality you need in one spot

Just like on our website, you will find the selection guide is split into our five key product areas. There is also a dedicated section on packages, highlighting the latest package innovations and packing options.

Bipolar transistors

- › Resistor-equipped, low V_{CEsat} and small-signal transistors
- › Standard SMD, leadless and clip-bond packages

Diodes

- › Broad choice of Zener, Schottky and switching diodes
- › Ultra-small, low-profile surface-mount package options

ESD protection, filtering and signal conditioning

- › Extensive range of protection in ultra-small form factors
- › Optimized for signal integrity, robustness and system protection

MOSFETs

- › Low R_{DSon} devices from < 20 V to > 200 V
- › True power packages with solid wireless-clip for smart efficiency

Logic

- › Comprehensive portfolio operating from 0.7 V to 15.0 V
- › Unrivalled package innovation and lowest power logic solutions

Packages

- › The next generation of packaging for volume production
- › Package cross-reference and packing options

As an innovative company we are continually adding to our product portfolio, so to discover all our latest product information you should visit our website – www.nexperia.com

Our commitment: quality and reliability



AEC-Q100/Q101 qualified

We qualify our products according to the automotive AEC-Q100/Q101 standard and even exceed it's requirements, for instance when doing extended lifetime testing.



Go for quality

All our processes and manufacturing plants are subject to regular international and internal audits, including the following:

- › ISO9001
- › ISO/TS 16949 for automotive sites
- › ISO14001
- › OHSAS18001



Design for excellence

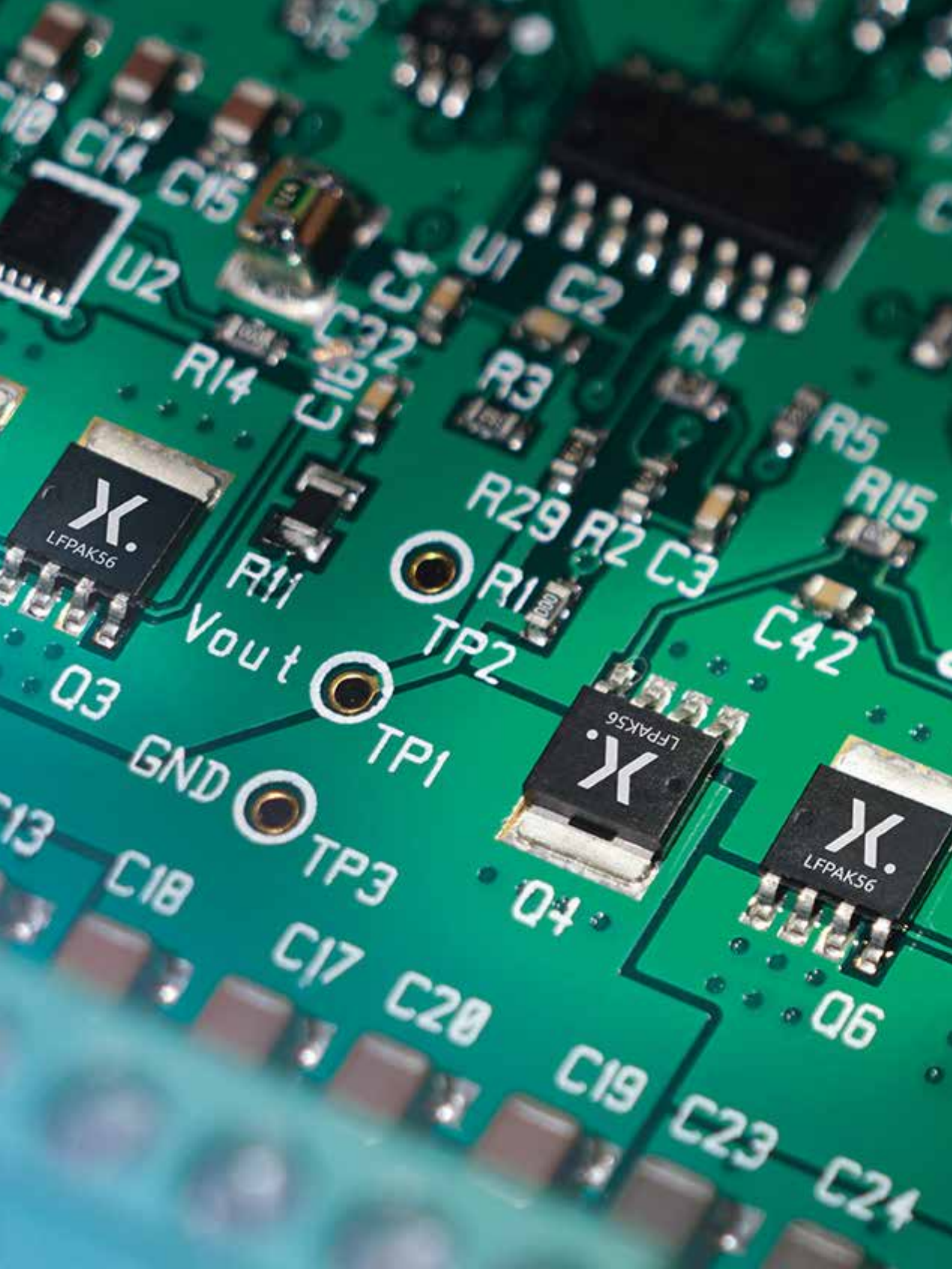
Nexperia's Design for Excellence (DfX) program ensures that each new development builds on past learning and that best practices are always employed. The result is continual product improvement.



Zero defect

Zero defect is our goal. To ensure continuous improvement failure analysis and the determination to find root causes is performed at all stages of development and production by adoption of quality-analysis tools and methods (e.g. Six-Sigma, Safe-Launch).

Rigorous attention to detail and commitment to quality have yielded a very low product failure rate of a single-digit part per billion (ppb).



K.
LFPAK56

Vout

TP2

TP1

GND

TP3

K.
LFPAK56

K.
LFPAK56

LFPAK56

Q6

C14 C15

R14

C16 C13 C12 C11

R3

R29

R2 R3

C42

R5

R15

Q3

Q4

C18

C17

C20

C19

C23

C24

U1

U2

U10

U13

Selection guide 2018.

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New products

As an innovative company we invest significantly in R&D, and continually expand our portfolio with the latest generation of technology and products. Here is a snapshot of our most recent releases, but don't forget to visit the website for the most up-to-date information - www.nexperia.com

Bipolar transistors

Category	Device	Description	Page
General purpose bipolar transistors	BC817K-16	45 V, 500 mA NPN general-purpose transistors in SOT23	15
	BC817K-25	45 V, 500 mA NPN general-purpose transistors in SOT23	15
	BC817K-40	45 V, 500 mA NPN general-purpose transistors in SOT23	15
	BC807K-16	45 V, 500 mA PNP general-purpose transistors in SOT23	15
	BC807K-25	45 V, 500 mA PNP general-purpose transistors in SOT23	15
	BC807K-40	45 V, 500 mA PNP general-purpose transistors in SOT23	15
	BCP56H	80 V, 1 A NPN medium power transistor in SOT223	17
	BCP56-10H	80 V, 1 A NPN medium power transistor in SOT223	17
	BCP56-16H	80 V, 1 A NPN medium power transistor in SOT223	17
	BCP53H	80 V, 1 A PNP medium power transistors in SOT223	17
	BCP53-10H	80 V, 1 A PNP medium power transistors in SOT223	17
	BCP53-16H	80 V, 1 A PNP medium power transistors in SOT223	17
	BC817K-16H	45 V, 500 mA NPN general-purpose transistors in SOT23	17
	BC817K-25H	45 V, 500 mA NPN general-purpose transistors in SOT23	17
	BC817K-40H	45 V, 500 mA NPN general-purpose transistors in SOT23	17
	BCM56DS	NPN/NPN matched double transistors in SOT457	20
	BCM53DS	PNP/PNP matched double transistors in SOT457	20
	BCM847QAS	NPN/NPN matched double transistors in SOT1216	20
	BCM857QAS	PNP/PNP matched double transistors in SOT1216	20
	PMP4501QAS	NPN/NPN matched double transistors in SOT1216	20
PMP5501QAS	PNP/PNP matched double transistors in SOT1216	20	
Low VCEsat (BISS) transistors	PBSS4160X	60 V, 1 A NPN low VCEsat BISS transistor in SOT89	22
	PBSS4360X	60 V, 3 A NPN low VCEsat BISS transistor in SOT89	22
	PBSS5360X	60 V, 3 A PNP low VCEsat (BISS) transistor in SOT89	24
	PBSS5250TH	50 V, 2 A PNP low VCEsat (BISS) transistor in SOT23	25
	PBSS5350TH	50 V, 3 A PNP low VCEsat (BISS) transistor in SOT23	25
	PBHV9540X	400 V, 0.5 A PNP high-voltage low VCEsat (BISS) transistor in SOT89	28
	PHPT61002NYCLH	100 V, 2 A NPN high power bipolar transistor in LFPAK56	29
	PHPT61002PYCLH	100 V, 2 A PNP high power bipolar transistor in LFPAK56	29
Resistor equipped transistors (RETs)	PRMH11	50 V, 100 mA NPN/NPN Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	PRMD3	50 V, 100 mA NPN/PNP Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	PRMB11	50 V, 100 mA PNP/PNP Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	PRMD2	50 V, 100 mA NPN/PNP Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	PRMH2	50 V, 100 mA NPN/NPN Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	PRMD12	50 V, 100 mA NPN/PNP Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	PRMH10	50 V, 100 mA NPN/NPN Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	PRMD10	50 V, 100 mA NPN/PNP Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	PRMH13	50 V, 100 mA NPN/NPN Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	PRMD13	50 V, 100 mA NPN/PNP Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	PRMH9	50 V, 100 mA NPN/NPN Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31
	PRMD16	50 V, 100 mA NPN/PNP Resistor-Equipped double Transistors (RET) in ultra-small DFN1412-6	31

Diodes

Category	Device	Description	Page
Switching Diodes	BAS321J	General purpose diode, planar technology, encapsulated in a very small plastic SOD323F (SC-90) package	39
PN Rectifiers	ES1DVR	200V, 1A Hyperfast PN Rectifier in CFP3 (low VF)	40
	ES1DR	200V, 1A Hyperfast PN Rectifier in CFP3	40
	ES2DVR	200V, 2A Hyperfast PN Rectifier in CFP3 (low VF)	40
	ES2DR	200V, 2A Hyperfast PN Rectifier in CFP3	40
	ES2DP	200V, 2A Hyperfast PN Rectifier in CFP5	40
	ES3DP	200V, 3A Hyperfast PN Rectifier in CFP5	40
	ES1GR	400V, 1A Hyperfast PN Rectifier in CFP3	40
PN Rectifiers - Automotive	PNE20030EP	200V, 3A Hyperfast PN Rectifier in CFP5 (Automotive grade)	41
	PNE20020EP	200V, 2A Hyperfast PN Rectifier in CFP5 (Automotive grade)	41
	PNE20020ER	200V, 2A Hyperfast PN Rectifier in CFP3 (Automotive grade)	41
	PNE20010ER	200V, 1A Hyperfast PN Rectifier in CFP3 (Automotive grade)	41
Schottky rectifiers	PMEG60T20ELR	60 V, 2 A low leakage current Trench MEGA Schottky barrier rectifier in CFP3	45
	PMEG40T10ER	40V, 1A Trench Schottky Rectifier in CFP3	46
	PMEG40T20EP	40V, 2A Trench Schottky Rectifier in CFP5	46
	PMEG40T20ER	40V, 2A Trench Schottky Rectifier in CFP3	46
	PMEG045T030EPD	45V, 3A Trench Schottky Rectifier in CFP15	46
	PMEG40T30EP	40V, 3A Trench Schottky Rectifier in CFP5	46
	PMEG40T30ER	40V, 3A Trench Schottky Rectifier in CFP3	46
	PMEG40T50EP	40V, 5A Trench Schottky Rectifier in CFP5	46
	PMEG045T050EPD	45V, 5A Trench Schottky Rectifier in CFP15	46
	PMEG045T100EPD	45V, 10A Trench Schottky Rectifier in CFP15	46
	PMEG045T150EIPD	45V, 15A Trench Schottky Rectifier in CFP15	46

ESD protection, TVS, filtering and signal conditioning

Category	Device	Description	Page
Low capacitance ESD protection for high-speed interfaces	PHDMI2FR4	Very low-clamping ESD protection for HDMI	55
	PHDMI2AB4	Very low capacitance ESD protection for HDMI	55
General ESD protection devices	PESD3V3T1BL	Ultra compact Transient Voltage Suppressor in DFN1006-2	57
Application-specific ESD solutions	PESD2ETH-D	ESD protection for in-vehicle ultra high-speed interfaces, in SOT457 package	61
	PESD2ETH-AD	ESD protection for in-vehicle ultra high-speed interfaces, in SOT457 package	61
EMI solutions with integrated protection	PCMF1HDMI2S	Common Mode Filter with ESD protection for HDMI2.0	64
	PCMF2HDMI2S	Common Mode Filter with ESD protection for HDMI2.0	64
	PCMF3HDMI2S	Common Mode Filter with ESD protection for HDMI2.0	64
	PUSB3FR6	Very low-clamping ESD protection for six data lines	66
	PUSB3AB6	Very low-capacitance ESD protection for six data lines	66
	PUSB3F97	Very low-clamping ESD protection for USB3.2@ 10 Gbps	66
	PESD3V3W1BSF	Extremely low-clamping, high robustness ESD protection for USB3.2	66
	PESD4V0W1BSF	Extremely low-clamping, high robustness ESD protection for USB3.2	66
	PESD7V0R1BSF	Extremely low-capacitance ESD-protection with 7 V V _{RWM}	66
	PESD7V0H1BSF	Very low-capacitance ESD-protection with 7 V V _{RWM}	66
	PESD7V0C1BSF	Extremely low-clamping ESD-protection with 7 V V _{RWM}	66
PESD6V5C1USF	Extremely low-clamping unidirectional ESD-protection with 6.5 V V _{RWM}	66	

ESD protection, TVS, filtering and signal conditioning

Category	Device	Description	Page
Transient voltage surge suppressor (TVS)	PTVS4V5D1BL	Ultra compact Transient Voltage Suppressor in ultra-small DFN1006-2	67
	MMBZ16VAL	High surge current unidirectional double ESD protection diodes in SOT23 (automotive grade)	67
	MMBZ16VTAL	High surge current unidirectional double ESD protection diodes in SOT23 (automotive grade)	67
	PTVS20VU1UPA	300 W unidirectional Transient Voltage Suppressor (TVS) in DFN2020-3	67
	PTVS22VU1UPA	300 W unidirectional Transient Voltage Suppressor (TVS) in DFN2020-3	67
	PTVS24VU1UPA	300 W unidirectional Transient Voltage Suppressor (TVS) in DFN2020-3	67
	PTVS5V0Z1USKP	Transient voltage suppressor in DSN1608-2 for mobile applications	67

MOSFETs

Category	Device	Description	Page
Automotive MOSFETs	BUK7J1R4-40H	N-channel 40 V, 1.4 mΩ standard level Q101 MOSFET in LFPAK56E	75
	BUK7Y1R7-40H	N-channel 40 V, 1.7 mΩ standard level Q101 MOSFET in LFPAK56	75
	BUK7Y2R0-40H	N-channel 40 V, 2 mΩ standard level Q101 MOSFET in LFPAK56	75
	BUK7Y2R5-40H	N-channel 40 V, 2.5 mΩ standard level Q101 MOSFET in LFPAK56	75
	BUK7Y3R0-40H	N-channel 40 V, 3 mΩ standard level Q101 MOSFET in LFPAK56	75
Power MOSFETs	PSMN8R5-100PSF	NextPower 100 V, 8.7 mΩ N-channel MOSFET in TO220 package	90
	PSMN018-100PSF	NextPower 100 V, 18 mΩ N-channel MOSFET in TO220 package	90
	PSMN8R5-100ESF	NextPower 100 V, 8.8 mΩ N-channel MOSFET in I2PAK package	91
	PSMN018-100ESF	NextPower 100 V, 18 mΩ N-channel MOSFET in I2PAK package	91
	PSMN5R6-100YSF	NextPower 100 V, 6 mΩ N-channel MOSFET in LFPAK56 package	92
	PSMN6R9-100YSF	NextPower 100 V, 7 mΩ N-channel MOSFET in LFPAK56 package	92
	PSMN8R7-100YSF	NextPower 100 V, 9 mΩ N-channel MOSFET in LFPAK56 package	92
Small-signal MOSFETs	PMCM4401UNE	20 V, N-channel Trench MOSFET in 4 bumps Wafer Level Chip-Size Package (WLCSP)	97
	PMCM4402UPE	20 V, P-channel Trench MOSFET in 4 bumps Wafer Level Chip-Size Package (WLCSP)	97
	PMCM6501UNE	20 V, N-channel Trench MOSFET in 6 bumps Wafer Level Chip-Size Package (WLCSP)	97
	PMCM6501UPE	20 V, P-channel Trench MOSFET in 6 bumps Wafer Level Chip-Size Package (WLCSP)	97
	PMCM6501CUNE	20 V, N-channel Trench MOSFET in 6 bumps Wafer Level Chip-Size Package (WLCSP)	97
	PMV280ENEA	100 V N-channel Trench MOSFET in SOT23 SMD package	99
	PMN70EPE	30 V, P-channel Trench MOSFET in SOT457 SMD package	101

Logic

Category	Device	Description	Page
Automotive Logic	74CBTLV3125-Q100	Quad bus switch	110
	74HC161-Q100	Presettable synchronous 4-bit binary counter; asynchronous reset	109
	74LVC4T3144-Q100	4-bit dual-supply buffer/line driver; 3-state	116
	HEF4528B-Q100	Dual monostable multivibrator	116
	74LVC1G19-Q100	1-to-2 decoder/demultiplexer	124
Buffers/inverters/drivers	74AHC9541A	Octal buffer/line driver; Schmitt-trigger (3-state)	129
	74AHCT07A	Hex buffer with open-drain; TTL-enabled	129
	74AHCT244A	Octal buffer/line driver (3-state)	130
	74AHCT541A	Octal buffer/line driver; TTL-enabled (3-state)	130
	74LV04AT	Hex inverter with TTL inputs	133
	74LV05A	Hex inverter; open-drain	133
	74LV07AT	Hex buffer with open-drain; TTL-enabled	133
	74LV244A	Octal buffer/line driver (3-state)	133
	74LV244AT	Octal buffer/line driver; TTL-enabled (3-state)	133
	74LV540A	Octal buffer/line driver (3-state); inverting	133
Schmitt-triggers	74AHCV07A	Hex buffer with open-drain outputs; Schmitt-trigger	130
	74AHCV244A	Octal buffer/line driver; Schmitt-trigger (3-state)	130
	74AHCV541A	Octal buffer/line driver; Schmitt-trigger (3-state)	130
	74LV17A	Hex buffer; Schmitt-trigger	133
	74AHCT17A	Hex buffer; Schmitt-trigger	138
Gates	74AUP2G132	Low-power dual 2-input NAND gate; Schmitt-trigger	139
Logic voltage translators	74LVC8T595	Dual-supply 8-bit serial-in/serial-out or parallel out translating shift register (3-state)	154
Bus switches	74CB3Q3253	Dual 1-of-4 FET multiplexer/demultiplexer with charge pump	157
	74CB3Q3257	Quad 1-of-2 FET multiplexer/demultiplexer with charge pump	157








Bipolar transistors






1

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Transistors single NPN


Package					SOT23	SOT323 (SC-70)	DFN1010D-3 (SOT1215)	DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)
									
Size (mm)					2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	1.1 x 1.0 x 0.37	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37
P _{tot} (mW)					250	200	750	250	250
V _{CEO} (V)	I _C (mA)	h _{FE} min/typ	h _{FE} max	f _T min (MHz)					
25	100	450	1200	100					
30	100	110 - 200	450 - 800	100	BC848B	PMST5089			
		350	900	100		BC848W	PMST5088		
32	100	110 - 420	220 - 800	100	BCW31 / 32 / 33				
		180 - 380	310 - 630	250	BCW60B / C / D				
45	100	110 - 420	220 - 800	100	BC847 / A / B / C	BC847W / AW / BW / CW	BC847AQA / BQA / CQA	BC847AM / BM / CM	BC847AMB / BMB / CMB
		120 - 380	220 - 630	100	BCX70G / H / J / K				
		110 - 200	220 - 450	100	BCW71 / 72				
50	100	500	1250	100	PMBT6429	PMST6429			
		210 - 290	340 - 460	100 - 150	2PD601ART 2PD601ARL 2PD601ASL	2PD601ARW / SW			
60	100	110 - 200	220 - 450	100	PMBT6428	PMST6428			
65	100	110 - 200	220 - 450	100	BCV71 / 72				
50	150	110 - 200	220 - 450	100	BC846 / A / B	BC846W / AW / BW		BC846BM	BC846BMB
		120 - 200	240 - 400	80	NXP3875Y / G				
	200	120 - 270	270 - 560	100		2PC4081Q / R / S		2PC4617QM / RM	2PC4617QMB / RMB
		210	340	100	2PD601BRL				
45	500	100 - 250	250 - 600	100	BC817 / -16 / -25 / -40	BC817W / -16W / -25W / -40W	BC817-25QA / -40QA		
		100	600	100	BCX19				
50	500	85 - 170	170 - 340	140 - 180	2PD602AQL 2PD602ARL 2PD602ASL	2PD1820AR / S			
60	500	50	-	100		PMSTA05			
45	800	100-250	250-600	100	BCW66F/G/H				

Transistors single PNP






Package					SOT23	SOT323 (SC-70)	DFN1010D-3 (SOT1215)	DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)
									
Size (mm)					2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	1.1 x 1.0 x 0.37	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37
P _{tot} (mW)					250	200	750	250	250
V _{CEO} (V)	I _C (mA)	h _{FE} min/typ	h _{FE} max	f _T min (MHz)					
30	100	125 - 220	500 - 800	100	BC858B	BC858W			
32	100	120 - 215	260 - 500	100	BCW29 / 30				
		180 - 380	310 - 630	100	BCW61B / C / D				
45	100	210 - 290	340 - 460	70 - 80	2PB709ART 2PB709ARL 2PB709ASL	2PB709ARW / SW			
		180 - 380	310 - 630	100	BCX71H / J / K				
		120 - 215	260 - 500	100	BCW69 / 70				
60	100	125 - 420	250 - 800	100	BC857 / A / B / C	BC857W / AW / BW / CW	BC857AQA / BQA / CQA	BC857AM / BM / CM	BC857AMB / BMB / CMB
60	100	120	260	150	BCW89				
65	100	125 - 200	250 - 475	100	BC856 / A / B	BC856W / AW / BW		BC856BM	BC856BMB
100	100	30	-	50	BSS63				
50	150	120 - 270	270 - 560	100		2PA1576Q / R / S		2PA1774QM / RM / SM	2PA1774QMB / RMB / SMB
		210	340	100	2PB709BRL				
25	500	290	460	100	2PB709BSL				
		100	600	80	BCX18				
45	500	100 - 250	250 - 600	80	BC807 / -16 / -25 / -40	BC807W / -16W / -25W / -40W	BC807-25QA / -40QA		
		100	600	80	BCX17				
50	500	85 - 170	170 - 340	100 - 140	2PB710ARL 2PB710ASL	2PB1219AQ / R / S			
60	500	100	-	50		PMSTA55			
80	500	100	-	50	PMBTA06	PMSTA06			
		100	-	50	PMBTA56	PMSTA56			
45	800	100-250	250-600	80	BCW68F/G/H				

High performance transistors (superior power dissipation)

Types in **bold** represent new products

Package							SOT23
							
Size (mm)							2.9 x 1.3 x 1.0
P _{tot} (mW)							775
Polarity	V _{CEO} (V)	V _{ebo} (V)	I _c (mA)	h _{FE} min	h _{FE} max	f _T min (MHz)	
NPN	45	5	0,5	100	250	100	BC817K-16
				160	400	100	BC817K-25
				250	600	100	BC817K-40
PNP	45	5	0,5	100	250	80	BC807K-16
				160	400	80	BC807K-25
				250	600	80	BC807K-40

Transistors double

Package						SOT457 (SC-74)	SOT363 (SC-88)	SOT666	DFN1412-6 (SOT1268)	DFN1010B-6 (SOT1216)	
											
Size (mm)						2.9 x 1.5 x 1.0	2.0 x 1.25 x 0.95	1.6 x 1.2 x 0.55	1.4 x 1.2 x 0.5	1.0 x 1.0 x 0.37	
P _{tot} (mW)						750	300	300	480	350	
Polarity	V _{CEO} (V)	I _c (mA)	h _{FE} min	h _{FE} max	f _T min (MHz)						
NPN	40	100	120	450	100		PUMX1	PEMX1			
	45	100	200	450	100	BC847DS	BC847BS	BC847BV	BC847RA	BC847QAS	
	65	100	110	-	100			BC846S			
			200	450	100	BC846DS	BC846BS				
	50	150	120	560	100		PUMX2				
45	500	160	400	80	BC817DS			BC817RA			
PNP	40	100	120	450	100	PIMT1	PUMT1	PEMT1			
	45	100	200	450	100		BC857BS	BC857BV	BC857RA	BC857QAS	
	65	100	110	-	100			BC856S			
			200	450	100		BC856BS				
45	500	160	400	80	BC807DS			BC807RA			
NPN / PNP	40	100	120	450	100		PUMZ1	PEMZ1			
	45	100	200	450	100		BC847BPN	BC847BVN	BC847RAPN	BC847QAPN	
	50	100	120	560	100	PIMZ2	PUMZ2				
	65	100	200	450	100		BC846BPN				
	12	500	200	-	250 / 100				PEMZ7		
45	500	160	160	100 / 800	BC817DPN				BC817RAPN		

Switching transistors single

Package							SOT223 (SC-73)	SOT89 (SC-62)	SOT23	SOT323 (SC-70)	DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)
Size (mm)							6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37
P _{tot} (mW)							1700	1300	250	200	250	250
Polarity	V _{CEO} (V)	I _C (mA)	h _{FE} min	h _{FE} max	f _T min (MHz)	t _{off} (ns)						
NPN	40	200	100	300	180	1200			PMBS3904	PMSS3904		
	15	600	40	120	500	20			PMBT2369	PMST2369		
	40	200	100	300	300	250			MMBT3904			
	30	600	100	300	250	250			PMBT3904	PMST3904	PMBT3904M	
	40	600	100	300	250	250	PZT4401	PXT4401	PMBT4401	PMST4401		
	40	600	100	300	300	250			MMBT2222A			
	40	800	100	300	300	250	PZT2222A	PXT2222A	PMBT2222A	PMST2222A		
PNP	40	100	100	300	150	700			BSR14			
	40	200	100	300	250	300			PMBS3906	PMSS3906		
	40	200	100	300	250	300			MMBT3906			
	40	600	100	300	200	350	PZT4403	PXT4403	PMBT4403	PMST4403	PMBT3906M	
	40	600	100	300	200	365			PMBT3906	PMST3906	PMBT3906M	
	40	600	100	300	200	300			PMBT2907			
	60	600	100	300	200	365			BSR16	PMST2907A		
							PZT2907A	PXT2907A	PMBT2907A			

Switching transistors double

Package							SOT363 (SC-88)	SOT666	SOT457 (SC-74)
Size (mm)							2.0 x 1.25 x 0.95	1.6 x 1.2 x 0.55	2.9 x 1.5 x 1.0
P _{tot} (mW)							300	300	750
Polarity	V _{CEO} (V)	I _C (mA)	h _{FE} min	h _{FE} max	f _T min (MHz)	t _{off} (ns)			
NPN	40	200	100	300	300	250	PMBT3904YS	PMBT3904VS	
	40	600	100	300	250	250	PMBT4401YS		
					300	250	PMBT2222AYS		
PNP	40	200	100	300	250	300	PMBT3906YS	PMBT3906VS	
	40	600	100	300	200	350	PMBT4403YS		
	60	600	100	300	200	365	PMBT2907AYS		
NPN / PNP	40	200	100	300	300 / 250	250 / 300	PMBT3946YPN	PMBT3946VPN	
					300 / 200	250 / 365			
									NMB2227A

Medium power transistors

Package						SOT223 (SC-73)	SOT89 (SC-62)	DFN2020-3 (SOT1061)	DFN2020D-3 (SOT1061D)	
Size (mm)						6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.0 x 2.0 x 0.62	2.0 x 2.0 x 0.62	
P _{tot} (mW)						1700	1300	1300	1300	
Polarity	V _{CEO} (V)	I _C (A)	h _{FE} min	h _{FE} max	f _T min (MHz)					
NPN	20	2	85 - 160	375	40	BCP68 / -25	BC868 / -25	BC68PA / BC68-25PA	BC68PAS / BC68-25PAS	
	45	1	63 - 100	160 - 250	100	BCP54 / -10 / -16	BCX54 / -10 / -16	BC54PA / BC54-10PA / BC54-16PA	BC54PAS / BC54-10PAS / BC54-16PAS	
	60	1	63 - 100	160 - 250	100	BCP55 / -10 / -16	BCX55 / -10 / -16	BC55PA / BC55-10PA / BC55-16PA	BC55PAS / BC55-10PAS / BC55-16PAS	
			100	300	100	BSP41	BSR41			
	80	1	63 - 100	160 - 250	100	BCP56 / -10 / -16	BCX56 / -10 / -16	BC56PA / BC56-10PA / BC56-16PA	BC56PAS / BC56-10PAS / BC56-16PAS	
			40 - 100	120 - 300	100	BSP43	BSR43			
	PNP	20	2	85 - 160	250 - 375	40	BCP69 / -16 / -25	BC869 / -16 / -25	BC69PA / BC69-16PA / BC69-25PA	BC69PAS / BC69-16PAS / BC69-25PAS
		45	1	63 - 100	160 - 250	115 ¹⁾ - 145 ¹⁾	BCP51 / -10 / -16	BCX51 / -10 / -16	BC51PA / BC51-10PA / BC51-16PA	BC51PAS / BC51-10PAS / BC51-16PAS
60		1	63 - 100	160 - 250	100	BCP52 / -10 / -16	BCX52 / -10 / -16	BC52PA / BC52-10PA / BC52-16PA	BC52PAS / BC52-10PAS / BC52-16PAS	
			40 - 100	120 - 300	100	BSP31	BSR30 / 31			
80		1	63 - 100	160 - 250	115 ¹⁾ - 145 ¹⁾	BCP53 / -10 / -16	BCX53 / -10 / -16	BC53PA / BC53-10PA / BC53-16PA	BC53PAS / BC53-10PAS / BC53-16PAS	
			40 - 100	120 - 300	100	BSP32 / 33	BSR33			

1) Typical value

Medium power transistors high performance (175 °C capable)

Types in **bold** represent new products

Package							SOT223 (SC-73)
Size (mm)							6.5 x 3.5 x 1.65
P _{tot} (mW)							1700
Polarity	V _{CEO} (V)	V _{EBO} (V)	I _C (A)	h _{FE} min	h _{FE} max	f _T min(MHz)	
NPN	80	7	1	63	250	100	BCP56H
					160	100	BCP56-10H
					100	100	BCP56-16H
PNP	80	7	1	63	250	100	BCP53H
					100	100	BCP53-10H
					100	100	BCP53-16H

High performance transistors (175°C capable & superior power dissipation)

Types in **bold** represent new products

Package							SOT23
Size (mm)							2.9 x 1.3 x 1.0
P _{tot} (mW)							950
Polarity	V _{CEO} (V)	V _{EBO} (V)	I _C (A)	h _{FE} min	h _{FE} max	f _T min(MHz)	
NPN	45	7	0.5	100	250	100	BC817K-16H
				160	400	100	BC817K-25H
				250	600	100	BC817K-40H

High voltage transistors


Package						SOT223 (SC-73)	SOT89 (SC-62)	SOT457 (SC-74)	SOT23	SOT323 (SC-70)
Size (mm)						6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95
P _{tot} (mW)						1700	1300	750	250	200
Polarity	V _{CEO} (V)	I _C (mA)	h _{FE} min	h _{FE} max	f _r min (MHz)					
NPN	140	300	60	250	100				PMBT5550	PMST5550
	160	300	80	250	100				PMBT5551 / BSR19A	PMST5551
	250	100	50	-	60	BF722	BF622		BF822	
	300	100	50	-	60	BF720	BF620		BF820	BF820W
			40	-	50	PZTA42	PXTA42		PMBTA42	PMSTA42
	350	100	40	-	70	BSP19	BST39			
400	300	50	200	20	PZTA44			PMBTA44		
PNP	100	100	30	-	50				BSS63	
			50	-	60	BF723				
	250	100	50	-	60		BF623		BF823	
			50	-	60		BF621		BF821	
			40	-	50	PZTA92	PXTA92		PMBTA92	PMSTA92
300	100	40	-	50						
2 x NPN	300	100	40	-	50			PMBTA42DS		

For high-voltage transistors with increased performance please refer to our high-voltage low VCEsat (BISS) transistor portfolio on page 19.

LED driver

Package		SOT457	SOT23
Size (mm)		2.9 x 1.5 x 1.0	2.9 x 1.3 x 1.0
P _{tot} (mW)		750	480
V _S supply voltage [V]	LED drive current [mA] @ V _S =10V		
18	10		NCR401T
	20		NCR402T
40	10	NCR401U	
	20	NCR402U	
	50	NCR405U	

Constant current source

Package					
SOT353 (SC-88A)					
					
Size (mm)					
2.0 x 1.25 x 0.95					
P _{tot} (mW)					
335					
Type					
PSSI2021SAY					
Description	Maximum supply voltage	Maximum supply current	Typical stabilized output current	Minimum stabilized output current	Maximum stabilized output current
Parameter	V _S max (V)	I _S max (mA)	I _{out} typ (µA)	I _{out} min (mA)	I _{out} max (mA)
Value	75	2.2	15	0.015	50

Darlington transistors

Package					SOT223 (SC-73)	SOT89 (SC-62)	SOT23	
Size (mm)					6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.9 x 1.3 x 1.0	
P _{tot} (mW)					1700	1300	250	
Polarity	V _{CEO} (V)	I _C (mA)	h _{FE} min	f _T min (MHz)				
NPN	30	500	10000	125			PMBTA13	
			20000		PZTA14	PXTA14	PMBTA14	
	45	1000	2000	200			BCV29	BCV27
			10000				BCV49	BCV47
	80	1000	2000	200				
			10000		BSP51	BST51		
					BSP52	BST52		
PNP	30	500	20000	125			PMBTA64	
				220			BCV28	BCV26
	45	1000	2000	200				
			10000				BCV48	BCV46
	80	1000	2000	200				
			10000		BSP61	BST61		
					BSP62	BST62		

Schmitt triggers







Package							SOT143B
Size (mm)							2.9 x 1.3 x 1.0
P _{tot} (mW)							250
Polarity	V _{CEO} (V) TR1	V _{CEO} (V) TR2	I _C (mA)	h _{FE} min	h _{FE} max	V _{CEsat} typ (mV)	
NPN	30	6	100	110	800	250	BCV63 / B
PNP	30	6	100	220	475	250	BCV64B

Low noise transistors

Package							SOT23	SOT323 (SC-70)
Size (mm)							2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95
P _{tot} (mW)							250	200
Polarity	V _{CEO} (V)	I _C (mA)	Noise figure max (dB)	h _{FE} min	h _{FE} max	f _T min (MHz)		
NPN	30	100	4	200	450	100	BC849B	BC849BW
				420	800	100	BC849C	BC849CW
	45	100	4	200	450	100	BC850B	BC850BW
				420	800	100	BC850C	BC850CW
PNP	30	100	4	220	475	100	BC859B	BC859BW
				420	800	100	BC859C	BC859CW
	45	100	4	220	475	100	BC860B	BC860BW
				420	800	100	BC860C	BC860CW

Matched pair transistors - part 1














Types in **bold** represent new products

Package							SOT143B	SOT457 (SC-74)	LFPAK56D (SOT1205)	
Size (mm)							2.9 x 1.3 x 1.0	2.9 x 1.5 x 1.0	5 x 6 x 1.1	
P _{tot} (mW)							250	750	1250	
Polarity	V _{CEO} (V)	I _C (mA)	h _{FE} min	h _{FE} max	h _{FE1} /h _{FE2}	V _{BE1} - V _{BE2} (mV)				
NPN	30	100	110	800	0.7 ¹⁾	n.a.	BCV61/A/B/C			
	45	100	200	450	0.9 ¹⁾	n.a.	BCM61B			
	80	100	63	250	0.95	n.a.		BCM56DS	BCM847DS	
	100	3000	150	-	0.95	n.a.			PHPT610035NK	
	Configuration									
PNP	30	100	100	800	0.7 ¹⁾	n.a.	BCV62/A/B/C			
	45	100	200	450	0.9 ¹⁾	n.a.	BCM62B			
	65	100	200	450	0.9	2			BCM857DS	
	80	100	63	250	0.95	n.a.		BCM53DS		
	100	3000	150	-	0.9	n.a.			PHPT610035PK	
	Configuration									

¹⁾ I_{C1} / I_{E2}

Matched pair transistors - part 2


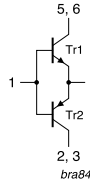

Types in **bold** represent new products

Package							SOT353 (SC-88A)	SOT363 (SC-88)	SOT666	SOT1216 (DFN1010B-6)			
Size (mm)							2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.6 x 1.2 x 0.55	1.1 x 1.0 x 0.37			
P _{tot} (mW)							300	300	300	350			
Polarity	V _{CEO} (V)	I _C (mA)	h _{FE} min	h _{FE} max	h _{FE1} /h _{FE2}	V _{BE1} - V _{BE2} (mV)							
NPN	45	100	200	450	0.9 ¹⁾	2		BCM847BS		BCM847BV			
					0.95	2	PMP4501G		PMP4501Y	PMP4501V	BCM847QAS	PMP4501QAS	
					0.98	2	PMP4201G		PMP4201Y	PMP4201V			
	65	100	200	450	0.9	2		BCM846BS					
	Configuration												
PNP	45	100	200	450	0.9 ¹⁾	2		BCM857BS		BCM857BV			
					0.95	2	PMP5501G		PMP5501Y	PMP5501V	BCM857QAS	PMP5501QAS	
					0.98	2	PMP5201G		PMP5201Y	PMP5201V			
	65	100	200	450	0.9	2		BCM856BS					
Configuration													



¹⁾ I_{C1} / I_{E2}

MOSFET driver

Types in **bold** represent new products






V_{CE0} (V)	I_c (A)	I_{cm} [A]	Type	Package	Remark	Configuration
30	0.1	0.2	BCV65	SOT143B 	General-purpose transistors	
40	0.6	1	PMD2001D	SOT457 	Switching transistors with reduced storage time	
	1	2	PMD3001D		LOW V_{CEsat}	

Medium frequency transistors

						SOT23	SOT323 (SC-70)
Package							
Size (mm)						2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95
P_{tot} (mW)						250	200
Polarity	V_{CE0} (V)	I_c (mA)	h_{FE} min	h_{FE} max	f_T typ (MHz)		
NPN	15	100	40	-	500	BF570	
	20	25		85	>275	BF520	BF520W
		30	65	225	260	BF519	
	40	25	67	220	380	BF840	
PNP	30	25	25	50	250	BF824	BF824W
	40		50	-	>325	BF550	

Low V_{CEsat} (BISS) transistors single NPN up to 2000 mW







Types in **bold** represent new products

Package							SOT223 (SC-73)	SOT89 (SC-62)	SOT457 (SC-74)	DFN2020-3 (SOT1061)	DFN2020D-3 (SOT1061D)
											
Size (mm)							6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.9 x 1.5 x 1.0	2.0 x 2.0 x 0.62	2.0 x 2.0 x 0.62
P_{tot} (mW)							1700	1650	750	1300	1300
V_{CE0} (V)	I_C (A)	I_{CM} (A)	h_{FE} min/typ	@ I_C (A)	@ V_{CE} (V)	V_{CEsat} typ (mV); $I_C = 0.5$ A; $I_B = 0.05$ A					
12	5.3	10.6	300/530	0.5	2	18		PBSS301NX			
	5.8	11.6	300/530	0.5	2	18	PBSS301NZ				
	6	7	280/440	0.5	2	20			PBSS4612PA		
20	3	5	220/390	0.5	2	40		PBSS4320X			
	4	15	300/450	0.5	2	30			PBSS301ND		
	5	10	300/450	0.5	2	35		PBSS4520X			
	5.3	10.6	300/570	0.5	2	20		PBSS302NX			
	5.8	10.2	300/570	0.5	2	20	PBSS302NZ				
	6	7	280/440	0.5	2	20				PBSS4620PA	
	7	15	300/550	0.5	2	12		PBSS4021NX			
	8	20	300/550	0.5	2	9	PBSS4021NZ				
30	3	5	300/490	0.5	2	45		PBSS4330X			
	3	5	300/465	0.5	2	40				PBSS4330PA	PBSS4330PAS
	3.5	6	300/500	0.5	2	70			PBSS4032ND ³⁾		
	4.7	10	300/500	0.5	2	57		PBSS4032NX ³⁾			
	5.1	10.2	300/480	0.5	2	20		PBSS303NX			
	5.4	10	300/500	0.5	2	57	PBSS4032NZ ³⁾				
	5.5	11	300/480	0.5	2	20	PBSS303NZ				
	6	7	280/450	0.5	2	21				PBSS4630PA	
40	2	3	300/-	0.5	5	140		PBSS4240X			
	4	15	300/520	0.5	2	35			PBSS302ND		
		10	300/500	0.5	2	21		PBSS4540X			
	5	10	300/500	0.5	2	25	PBSS4540Z				
50	2	5	300/-	0.5	2	90 ²⁾		PBSS4250X			
	3	5	200/280	0.5	2	65			PBSS4350D		
			300/460	0.5	2	50		PBSS4350X			
			200/280	0.5	2	60 ¹⁾	PBSS4350Z				
60	1	2	170/-	0.5	10	200 ²⁾		PBSS4160X			
	3	6	200/360	0.5	5	45					PBSS4360PAS
			200/-	0.5	5	45	PBSS4360Z	PBSS4360X			
			345/570	0.5	2	40			PBSS303ND		
	4.7	9.4	300/520	0.5	2	25		PBSS304NX			
	5.2	10.4	300/520	0.5	2	25	PBSS304NZ				
	6	7	280/440	0.5	2	22				PBSS4560PA	
	6.2	15	300/500	0.5	2	17		PBSS4041NX			
7	15	300/500	0.5	2	13	PBSS4041NZ					
80	3	6	240/360	0.5	2	40			PBSS304ND		
	4	10	250/400	0.5	2	25		PBSS4480X			
	4.6	9.2	300/470	0.5	2	25		PBSS305NX			
	5.1	10.2	300/470	0.5	2	25	PBSS305NZ				
	5.6	7	270/425	0.5	2	25				PBSS4580PA	
100	1	3	150/290	0.25	10	75			PBSS8110D		
			150/290	0.25	10	73		PBSS8110X			
			150/290	0.25	10	73	PBSS8110Z				
	3	4	170/275	0.5	2	45			PBSS305ND		
	4.5	9	200/330	0.5	2	27		PBSS306NX			
	5.1	10.2	200/330	0.5	2	27	PBSS306NZ				
5.2	6	180/285	0.5	2	30				PBSS8510PA		

¹⁾ $I_C/I_B = 20$ ²⁾ V_{CEsat} (max) ³⁾ Optimized for high-speed switching

Low V_{CEsat} (BISS) transistors single NPN up to 750 mW






Types in **bold** represent new products

Package								SOT23	SOT323 (SC-70)	SOT363 (SC-88)	DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)	DFN1010D-3 (SOT1215)
													
Size (mm)								2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37	1.1 x 1.0 x 0.37
P _{tot} (mW)								480	350	430	250	250	750
V _{CEO} (V)	I _C (A)	I _{CM} (A)	h _{FE} min/typ	@ I _C (A)	@ V _{CE} (V)	V _{CEsat} typ (mV); I _C = 0.5 A; I _B = 0.05 A							
15	0.5	1	200/325	0.01	2	-					PBSS2515M	PBSS2515MB	
20	1	3	350/470	0.1	2	110 ²⁾	PBSS4120T						
	2	5	220/330	0.1	2	45	PBSS4320T						
	4.3	8	300/550	0.5	2	21	PBSS4021NT						
30	1	1.5	230/380	0.5	2	90						PBSS4130QA	
		3	300/450	0.5	2	120 ²⁾	PBSS4130T						
	2	3	300/450	0.5	2	70	PBSS4230T						
		3	230/380	0.5	2	75						PBSS4230QA	
2.6	5	300/500	0.5	2	80	PBSS4032NT ³⁾							
40	0.5	1	200/550	0.01	2	200 ²⁾					PBSS2540M	PBSS2540MB	
			300/440	0.5	5	130		PBSS4140U					
			300/510	0.5	5	120	PMMT491A						
	1	2	300/420	0.5	5	130	PBSS4140T						
			350/470	0.1	2	70			PBSS4240Y				
2	3	300/450	0.5	2	70	PBSS4240T							
50	2	5	300/495	0.5	2	60	PBSS4350T						
60	1	1.5	150/240	0.5	2	90						PBSS4160QA	
		2	200/420	0.5	5	120		PBSS4160U					
			200/350	0.5	5	110	PBSS4160T						
	2	3	150/240	0.5	2	75						PBSS4260QA	
3.8	8	300/500	0.5	2	29	PBSS4041NT							
100	1	3	150/400	0.25	10	80				PBSS8110Y			
		3	150/300	0.25	10	70	PBSS8110T						

¹⁾ I_C / I_B = 20 ²⁾ V_{CEsat} (max) ³⁾ Optimized for high-speed switching

Low V_{CEsat} (BISS) transistors single PNP up to 2000 mW







Types in **bold** represent new products

Package							SOT223 (SC-73)	SOT89 (SC-62)	SOT457 (SC-74)	DFN2020-3 (SOT1061)	DFN2020D-3 (SOT1061D)
											
Size (mm)							6.5 x 3.5 x 1.65	4.5 x 2.5 x 1.5	2.9 x 1.5 x 1.0	2.0 x 2.0 x 0.62	2.0 x 2.0 x 0.62
P _{tot} (mW)							1700	1650	750	1300	1300
V _{CEO} (V)	I _C (A)	I _{CM} (A)	h _{FE} min/typ	@ I _C (A)	@ V _{CE} (V)	V _{CEsat} typ (mV); I _C = 0.5 A; I _B = 0.05 A					
12	5.3	10.6	250/400	0.5	2	20		PBSS301PX			
	5.7	11.4	250/400	0.5	2	20	PBSS301PZ				
	6	7	220/335	0.5	2	20			PBSS5612PA		
20	3	5	200/-	0.5	2	80 ²⁾			PBSS5320D		
			220/450	0.5	2	50		PBSS5320X			
	4	15	250/400	0.5	2	35			PBSS301PD		
	5	10	300/430	0.5	2	45			PBSS5520X		
	5.1	10.2	250/370	0.5	2	25			PBSS302PX		
	5.5	11	250/370	0.5	2	25	PBSS302PZ				
	6	7	230/345	0.5	2	25				PBSS5620PA	
	6.2	15	250/400	0.5	2	18			PBSS4021PX		
30	2.7	5	200/350	0.5	2	87				PBSS4032PD ³⁾	
			200/380	0.5	2	50		PBSS5330X			
			200/320	0.5	2	45				PBSS5330PA	PBSS5330PAS
	4.2	10	200/350	0.5	2	70			PBSS4032PX ³⁾		
	4.4	10	200/350	0.5	2	70	PBSS4032PZ ³⁾				
	5.1	10.2	250/400	0.5	2	25			PBSS303PX		
	5.3	10.6	250/400	0.5	2	25	PBSS303PZ				
	6	7	200/335	0.5	2	25				PBSS5630PA	
40	2	3	215/-	0.5	5	170			PBSS5240X		
	4	15	200/310	0.5	2	46				PBSS302PD	
			250/370	0.5	2	33		PBSS5540X			
	5	10	250/350	0.5	2	40 ¹⁾	PBSS5540Z				
50	2	5	200/-	0.5	2	90 ²⁾			PBSS5250X		
	3	5	200/300	0.5	2	70				PBSS5350D	
			200/375	0.5	2	70			PBSS5350X		
			200/300	0.5	2	70	PBSS5350Z				
60	3	6	130/220	0.5	5	55					PBSS5360PAS
			130/-	0.5	5	55	PBSS5360Z	PBSS5360X			
			180/265	0.5	2	55			PBSS303PD		
	4.2	8.4	200/295	0.5	2	35			PBSS304PX		
	4.5	9	200/295	0.5	2	35	PBSS304PZ				
	5	6	170/260	0.5	2	35				PBSS560PA	
	5	15	200/300	0.5	2	30			PBSS4041PX		
5.7	200/300		0.5	2	22	PBSS4041PZ					
80	3	5	155/225	0.5	2	55				PBSS304PD	
			180/265	0.5	2	40				PBSS5580PA	
	4	10	200/300	0.5	2	35			PBSS5480X		
			200/280	0.5	2	36			PBSS305PX		
4.5	9	200/280	0.5	2	36	PBSS305PZ					
100	1	3	150/350	0.5	5	100				PBSS9110D	
			150/350	0.5	5	90			PBSS9110X		
			150/-	0.5	5	90	PBSS9110Z				
	2	3	175/275	0.5	2	65				PBSS305PD	
	2.7	4	180/295	0.5	2	45				PBSS9410PA	
	3.7	7.4	200/300	0.5	2	45			PBSS306PX		
4.1	8.2	200/300	0.5	5	45	PBSS306PZ					

¹⁾ I_C / I_B = 20 ²⁾ V_{CEsat} (max) ³⁾ Optimized for high-speed switching

Low V_{CEsat} (BISS) transistors single PNP up to 750 mW

Types in **bold** represent new products

Package							SOT23	SOT323 (SC-70)	SOT363 (SC-88)	DFN1006-3 (SOT883)	DFN1006B-3 (SOT883B)	DFN1010D-3 (SOT1215)
												
Size (mm)							2.9 x 1.3 x 1.0	2.0 x 1.25 x 0.95	2.0 x 1.25 x 0.95	1.0 x 0.6 x 0.48	1.0 x 0.6 x 0.37	1.1 x 1.0 x 0.37
P _{tot} (mW)							480	350	430	250	250	750
V _{CE0} (V)	I _C (A)	I _{CM} (A)	h _{FE} min/typ	@ I _C (A)	@ V _{CE} (V)	V _{CEsat} typ (mV); I _C = 0.5 A; I _B = 0.05 A						
15	0.5	1	200/260	0.01	2	150				PBSS3515M	PBSS3515MB	
20	1	2	300/450	0.1	2	125 ²⁾	PBSS5120T					
	2	3	225/-	0.5	2	80 ²⁾	PBSS5220T					
		5	220/420	0.5	2	50	PBSS5320T					
	3.5	8	250/400	0.5	2	35	PBSS4021PT					
30	1	1.5	180/295	0.5	2	85						PBSS5130QA
			260/350	0.5	2	110	PBSS5130T					
	2	3	300/450	0.1	2	70	PBSS5230T					
			180/295	0.5	2	70						
	2.4	5	200/320	0.5	2	95	PBSS4032PT ³⁾					
40	0.5	1	200/380	0.01	2	220				PBSS3540M	PBSS3540MB	
			300/520	0.1	5	130		PBSS5140U				
				300/800	0.1	5	130	PMMT591A				
	2	3	300/510	0.1	5	130	PBSS5140T					
			300/-	0.1	2	110 ²⁾			PBSS5240Y			
		300/450	0.1	2	70	PBSS5240T						
50	2	3	200/-	0.5	2	90 ²⁾	PBSS5250T					
							PBSS5250TH					
	2	3	200/-	0.5	2	90 ²⁾	PBSS5350TH					
5		200/360	0.5	2	55	PBSS5350T						
60	1	1.5	120/185	0.5	2	125						PBSS5160QA
			150/250	0.5	5	135		PBSS5160U				
		150/250	0.5	5	120	PBSS5160T						
	1.7	2.5	120/185	0.5	2	105						PBSS5260QA
	2.7	8	200/300	0.5	2	49	PBSS4041PT					
100	1	3	150/-	0.25	5	93				PBSS9110Y		
			150/350	0.5	5	95	PBSS9110T					

¹⁾ IC / IB = 20 ²⁾ V_{CEsat} (max) ³⁾ Optimized for high-speed switching