





Medium power general-purpose 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 ²⁾	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 / BC569-16PAS / 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 ²⁾	BCX53 / -10 / -16	BC53PA / BC53-10PA / BC53-16PA	BC53PAS / BC53-10PAS / BC53-16PAS
			40 - 100	120 - 300	100	BSP32 / 33	BSR33		


1) Typical value
2) BCP56/53H-Series with $T_j = 175^\circ\text{C}$

Key features

- › Four different medium power SMD packages
- › Two leadless very small SMD plastic package with medium power capability (DFN2020)
- › Exposed heat sink for excellent thermal and electrical performance in DFN2020-3, DFN2020D-3 and SOT89
- › Side-wettable flanks suitable for automatic optical inspection (AOI) in DFN2020D-3
- › V_{CE0} ranging from 20 V to 80 V
- › High collector current capability I_C (up to 2 A) and I_{CM} (up to 3 A)
- › AEC-Q101 qualified

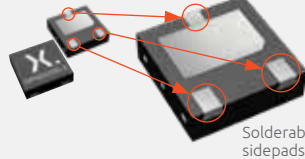
Same performance on a much smaller footprint

SOT89



Body dimensions: 4.5 x 2.5 mm
PCB area : 11.3 mm²
Package height: 1.5 mm

DFN2020



Body dimensions: 2.0 x 2.0 mm
PCB area: 4 mm²
Package height: 0.65 mm

Solderable sidepads

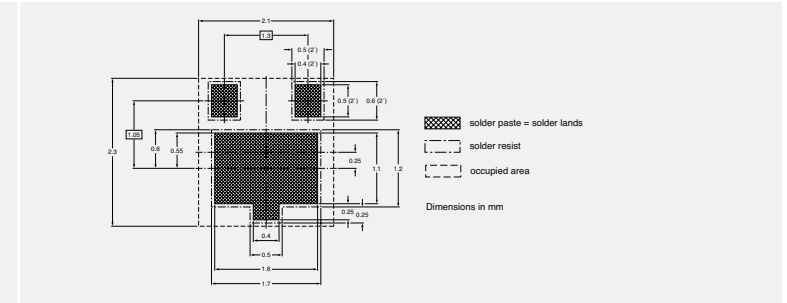
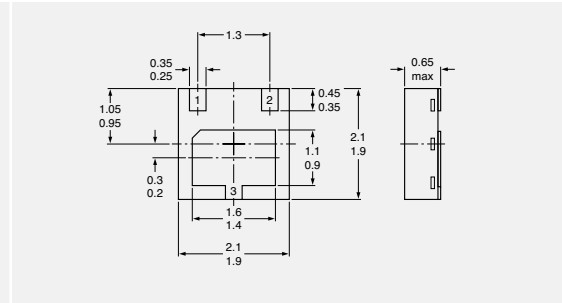
▶ 80 % space reduction on PCB area
 ▶ 57 % height reduction

Key benefits

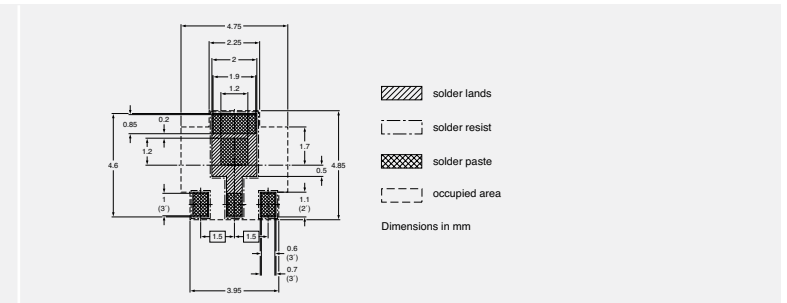
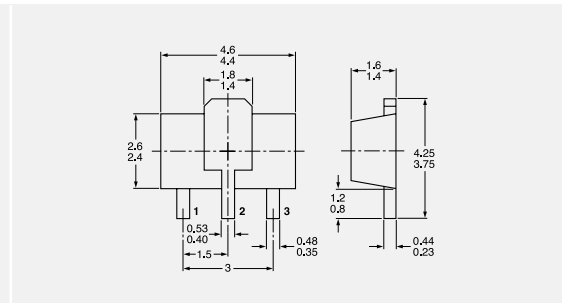
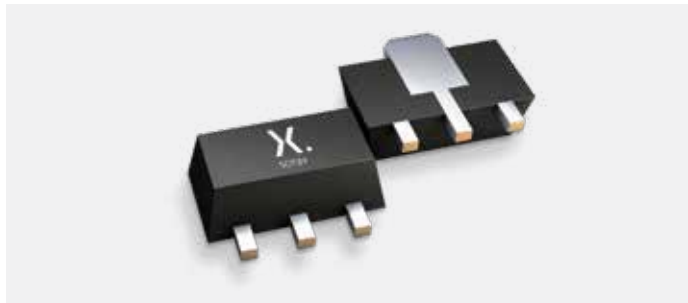
- › Ideally suited for medium power applications
- › High power dissipation capability
- › High energy efficiency due to less heat generation
- › Excellent electrical performance on a small footprint 2 x 2 mm (DFN2020 packages)
- › 80% board space reduction (DFN2020 vs. SOT89)
- › 90% board space reduction (DFN2020 vs. SOT223)

nexperia

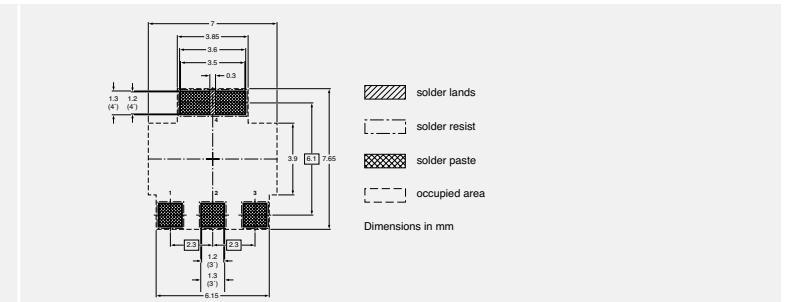
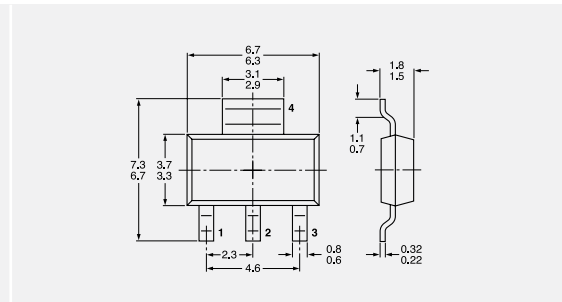
Minimized outline drawings and reflow soldering footprint



DFN2020-3 (SOT1061) / DFN2020D-3 (SOT1061D) - 2.0 x 2.0 x 0.62 mm



SOT89 (SC-62) - 4.5 x 2.5 x 1.5 mm



SOT223 (SC-73) - 6.5 x 3.5 x 1.65 mm

© 2018 Nexperia B.V.

All rights reserved. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use. Publication thereof does not convey nor imply any license under patent- or other industrial or intellectual property rights.

nexperia.com

Date of release:

February 2018

Printed:

In the Netherlands

