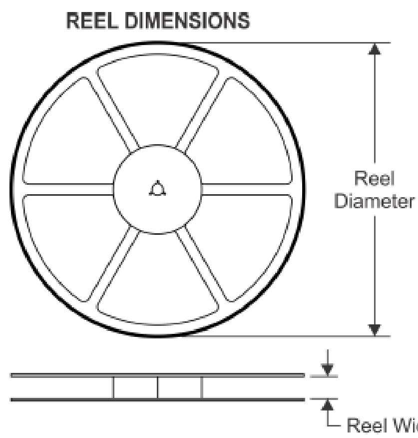
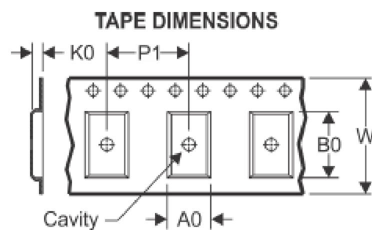
Device	Package Type	Package Drawing	Pins	SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
TPS543C20RVFR	LQFN-CLIP	RVF	40	2500	330.0	16.4	5.35	7.35	1.7	8.0	16.0	Q1
TPS543C20RVFT	LQFN-CLIP	RVF	40	250	180.0	16.4	5.35	7.35	1.7	8.0	16.0	Q1

Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
TPS543C20RVFR	LQFN-CLIP	RVF	40	2500	367.0	367.0	38.0
TPS543C20RVFT	LQFN-CLIP	RVF	40	250	210.0	185.0	35.0

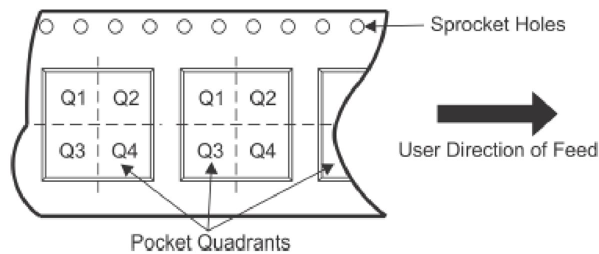
TAPE AND REEL INFORMATION

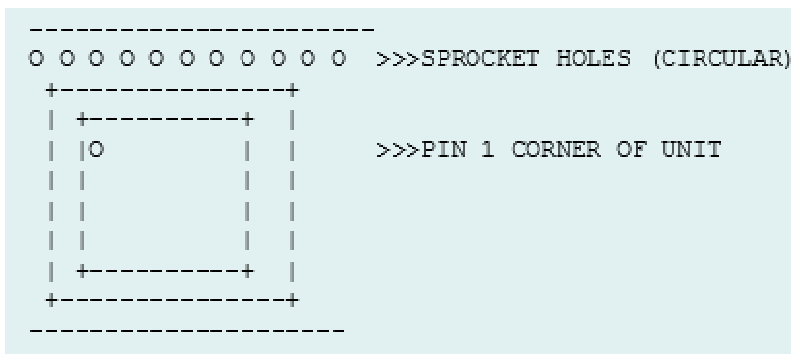




A0	Dimension designed to accommodate the component width
B0	Dimension designed to accommodate the component length
K0	Dimension designed to accommodate the component thickness
W	Overall width of the carrier tape
P1	Pitch between successive cavity centers

QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE





Marking picture	vendor Name	Part No.	Marking Rule
TPS543C20A	TI	TPS543C20ARVFR	the marking " TPS543C20ARVFR" represents the device name, by identifying units marking TPS543C20ARVFR correctly to determine device

Component	Homogeneous Material Name.	Substance	CAS Number	Amount (mg)	Percentage %
Bond Wire	Copper and Its Alloys	Copper	7440-50-8	0.143412	97.8565
	Copper and Its Alloys	Iron	7439-89-6	0.000001	0.001
	Nickel and Its Alloys	Nickel	7440-02-0	0.000001	0.0005
	Other Nonferrous Metals and Alloys	Manganese	7439-96-5	0.000001	0.0005
	Precious Metals	Gold	7440-57-5	0.000442	0.14
	Precious Metals	Palladium	7440-05-3	0.003932	2
	Precious Metals	Silver	7440-22-4	0.000003	0.0015
Die Attach Adhesive	Precious Metals	Silver	7440-22-4	3.150846	80
	Thermoplastics	Epoxy	85954-11-6	0.787711	20
Solder Paste	Other Nonferrous Metals and Alloys	Lead	7439-92-1	3.741629	95
	Other Nonferrous Metals and Alloys	Tin	7440-31-5	0.196928	5
Lead Frame	Copper and Its Alloys	Copper	7440-50-8	43.620495	97.585
	Copper and Its Alloys	Iron	7439-89-6	1.0281	2.3
	Copper and Its Alloys	Phosphorus	7723-14-0	0.006705	0.015
	Zinc and Its Alloys	Zinc	7440-66-6	0.0447	0.1
Lead Frame Plating	Nickel and Its Alloys	Nickel	7440-02-0	0.767618	95.12
	Precious Metals	Gold	7440-57-5	0.006295	0.78
	Precious Metals	Palladium	7440-05-3	0.033087	4.1
Clip 1	Copper and Its Alloys	Copper	7440-50-8	21.566285	97.585
	Copper and Its Alloys	Iron	7439-89-6	0.5083	2.3
	Copper and Its Alloys	Phosphorus	7723-14-0	0.003315	0.015
	Zinc and Its Alloys	Zinc	7440-66-6	0.0221	0.1
Clip 2	Copper and Its Alloys	Copper	7440-50-8	4.367	99.25
	Copper and Its Alloys	Iron	7439-89-6	0.011	0.25

	Other Nonferrous Metals and Alloys	Chromium	7440-47-3	0.01144	0.26
	Zinc and Its Alloys	Zinc	7440-66-6	0.01056	0.24
Mold Compound	Other Inorganic Materials	Fused Silica	60676-86-0	68.847196	88
	Other Organic Materials	Chlorine	7782-50-5	0.000782	0.001
	Other Plastics and Rubber	Carbon Black	1333-86-4	0.234706	0.3
	Thermoplastics	Epoxy	85954-11-6	9.152765	11.699
Semiconductor Device	Ceramics / Glass	Silicon	7440-21-3	9.310493	100

Basic Information		**Result**
Device Part Number		TPS543C20ARVFR
Wafer fab information, process type and node		TI MH8 LBC7 TI CDAT FET
Wafer process was qualified and released to production or not.		Mature
Products have been applied with this wafer process?		Yes
Is there any part from the same wafer process family have been used in customer?		YES
Wafer Process Capability(SPC)		Meet SPC Spec
Is there any wafer process CPK<1.33? If yes, please list it and provide the improvement plan.		NO
Chip ID:Do you have chip ID or die ID for this device?		NO
Assembly Factory, Package type		TI Subcon QFN TI Clark QFN
Package Size (Length*Width*Height)		5x7x1.52mm
Ball/Lead pitch		0.5MM
Is there any part from the same package family have been used in customer? If yes, please list the part number.		YES
Wire Bonding (Only for Wire Bonding Package)	Wire composition	Cu (PCC)
	Wire diameter	1.0mil
Assembly Process Capability(SPC)		Meet spc spec
Is there any assembly process CPK<1.33? If yes, please list it and provide the improvement plan.		NO
Range of Operation Temperature （Ta, Tj or Tc）		-40~125C
Storage Temperature range		-55 ~ 150C

Storage limit		1years at customer side
Max.Junctioin Temperature		150C
IFR, Intrinsic Failure Rate, FIT		8.2FIT@60%CL
MSL, Moisture Sensitive Level		MSL 2
Theta ja, jc and jb	Θja	28.9°C/W
	Θjc	18.9 °C/W
	Θjb	4.1°C/W
ESD (HBM、CDM, for all pin)	HBM	2500
	CDM	1500
Latch-Up (At max. Ambient Temperature)		Meet qual test requirement
Test Factory		TI Subcon TI Clark
If the chip is new process or new design, And some Lifetime limit test(Test to fail or beyond JEDEC standard) had been down. Please specify the test condition and result details.		NO
Wafer reliability Qualification Report, including: TDDB, HCI, NBTI, PBTI, EM, SM .etc		YES
Package Qualification Report, including: PC, THB, HAST, UHAST, HTSL, TC, BLTC, DT, Bend, PDT, PVT .etc		See TI.com qual report
Device Qualification Report, including: ELFR, HTOL, LTOL, ASER, SSER, ESD-HBM, ESD-CDM, LU .etc		See TI.com qual report
The device should be done reliability monitoring. Please provide the latest Reliability Monitoring Report, including: PC, THB, HAST, UHAST, TC, HTSL, HTOL .etc		ORT test based on package
Characterization report, follow JESD86		Refer to datasheet

Check Items for TPS543C20ARVFR		**Result**
Surface plating/ coating material	Composition	NIPDAU (TI Clark) Sn (TI subcon)
	Thickness(µm)	Confidential
Basic metal		Cu
Package standard		JEDEC
Weight of component (g)		NA

Weight/ available P&P area≤0.06g/mm2		Yes
coplanarity	coplanarity during reflow process	refer to datasheet
Pin1 Mark point	Is there any pin1 Mark point in the top side of component?	Yes
	Is the pin1 mark point sole? (if not, pls. give the relationship between mark and terminals)	Yes
	Is there any specific location number of terminals in the component specification?	Yes
	Component orientation can be Identified by mounting machine or AOI?	Yes
seal	Is there any hole or gap in package body, flux enter package inside form the hole or gap, resulting in function fail	NO
exposed Non-insulator on component body	Whether there exists non-insulator at no soldering position. Are non-insulator and adjacent soldering pin the same circuit?	NO
	Have Dimension and Position of non-insulator been indicated in component spec.	Yes
Are matters RoHS compliant listed below? (please refer to "sheet7 RoHS Compliant" in this file) Lead, Cd, Hg, Cr VI, PBB, PBDE Lead-free		RoHS Exempt Product contains lead but is compliant with RoHS pursuant to an exemption.
Is it Halogen-free		Yes
Relative humidity (%)		≥20%&≤70%
Temperature (℃)		≥-10℃&≤35℃
Maximum storage time (month)		Follow MSL rating rules Allowed 1 year stored at customer side
Packaging type		tape and real
Position of component pin 1 in packing		Q1
Packaging height(K0)		1.7
Packaging width(W)		16mm
component pitch:P1		8mm

ESD packaging	Yes
Rollover rate ≤0.05% in packing	Yes
Maximum component rotation for punched ≤10°	Yes
tray packing Baking conditions: 125°@24h	Yes
reel tape packing Baking conditions: 40°@192h	Yes
Can reel tape packing meet EIA 481 standard?	EIA
MSL	2
Baking requirement if moisture meets J-STD-033？	Yes
Moisture sensitive level at level 2 and level 2 above, moisture sensitive protection must include: moisture sensitive indicator card, desiccant, moisture sensitive grade logo	Yes
Manual soldering conditions：soldering iron tip temperature 400℃,time≥5s。 Or hot gun temperature340℃,time≥10s	Yes
Maximum soldering times ≥3	Yes
Can heat resistance of SMT components meet JSTD020D. (should focus on the classification of temperature and reflow profiles, that is table 4-1, 4-2 and 5-2, please refer to sheet6 J-STD-020D in this file)	Yes
Maximum pick-and-place pressure (N)	Yes
Whether the welding process and design requirements of component have all written to the component specifications	Yes
Whether Pad & stencil design as Mandatory requirements in component spec?	recommended
Whether the device has special requirements for the reflow temperature ramp-up rata and ramp-down rata? Customer follow J-STD-002 standard	No
Are there other mandatory requirements in component spec?	No
Solder ability test report	Yes
Board level reliability test report	No

Type	Test Name / Condition	Duration	Qual Device: TPS543C20RVF	QBS Product Reference: TPS543B20RVF	QBS Product Reference: TPS548B22RVF PG1.0	QBS Product Reference: TPS548D22RVF PG1.0
AC	Autoclave 121C	96 Hours	-	-	-	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	-	-
HAST	Biased HAST, 110C/85%RH	264 Hours	3/231/0	-	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	1/77/0
HBM	ESD - HBM	2500 V	1/3/0	1/3/0	1/3/0	-
CDM	ESD - CDM	1500 V	1/3/0	1/3/0	1/3/0	1/3/0
HTOL	Life Test, 150C	300 Hours	1/77/0	-	3/231/0	-
HTOL	Life Test, 155C	240 Hours	-	-	-	3/231/0
LU	Latch-up	(per JESD78)	1/6/0	1/6/0	1/6/0	1/6/0
TC	Temperature Cycle, -55/125C	700 Cycles	3/231/0	1/77/0	3/231/0	3/231/0
TC	Temperature Cycle, -65/150C	500 Cycles	-	-	3/231/0	3/231/0