



High volume small-signal MOSFETs for mobile and portables, in WLCSP and leadless DFN packages

Key features and benefits

- › Available in WLCSP, DFN0606, DFN1006, DFN2020, DFN1010
- › High power capability (WLCSP)
- › Space efficiency with smallest DFN solutions
- › Side-wettable flanks for optical solder inspection
 - Leadless packages contain tin plated side contacts for automatic optical inspection (AOI) and improved solder joint quality
- › Replacement of larger packages
 - Performance improvements in wafer technology and in package technology, especially leadless (DFN) packages enable higher electrical and thermal performance on a smaller footprint
- › Pitch size compatibility across DFN0606 and DFN1006
- › Improved $R_{DS(on)}$ performance
- › Most types with ESD protection up to 2 kV
- › Broad portfolio's for optimum choice:
 - N-Channel and P-Channel
 - R_{DS} voltage range of 12 V – 100 V

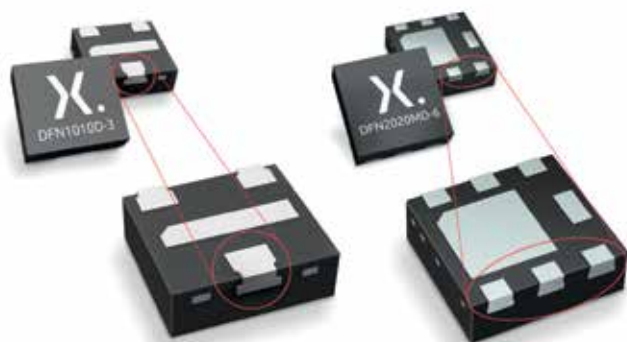
Applications

- › Load switching
- › Wireless charging
- › Battery switch
- › LED driver
- › Level translator
- › DC / DC conversion
- › Relay driver

Specialised for space-constrained applications:

- › Notebook
- › Smartphone
- › LCD TV
- › Tablet
- › Headphones
- › E-cigarette
- › Fitness band / smart watch

Side-wettable flanks



Package												WLCSP4	WLCSP6	WLCSP9
P _{tot} (mW)												1300	1300	1400
Pol	V _{DS} (V)	V _{GS} (V)	I _D (A)	V _{GSth} min. (V)	V _{GSth} max. (V)	ESD (kV)	R _{DS(on)} typ (mΩ) @ V _{GS} =							
							10 V	4.5 V	2.5 V	1.8 V	1.5 V			
N	12	8	6	0.4	0.9	2	-	36	46	60	86	PMCM4401VNE		
	20	8	5.5	0.4	0.9	2	-	43	55	65	75	PMCM4401UNE		
	60	20	6.1	0.9	1.5	2	28	31	-	-	-			PMCM950ENE
P	12	8	4.9	0.4	0.9	2	-	55	77	110	-	PMCM4401VPE		
			7.3	0.4	0.9	2	-	22	28	38	-		PMCM6501UPE	

Package												DFN0606-3	DFN1006-3	DFN1006B-3
P _{tot} (mW)												370	360	360
Configuration	Pol	V _{DS} (V)	V _{GS} (V)	I _D (A)	V _{GSth} min. (V)	V _{GSth} max. (V)	ESD (kV)	R _{DS(on)} typ (mΩ) @ V _{GS} =						
								10 V	4.5 V	2.5 V	1.5 V			
Single	N	20	8	1.8	0.45	0.95	2		120	160	86		PMZ130UNE	
				1.5	0.45	0.95	2		170	200	75			PMZB150UNE
				1.2	0.45	0.95	1.8		260			PMH260UNE		
				1.2	0.45	0.95	2		270	360	-		PMZ290UNE	PMZB290UNE2
		30	8	0.8	0.45	0.95	1		470	535	-	PMH600UNE		
				1.4	0.45	0.95	2		210	240	-		PMZ200UNE	PMZ200UNE
				0.9	0.45	0.95	2		390	460			PMZ390UNE	
				0.9	0.45	0.95	1.7		400			PMH400UNE		
				0.77	0.45	0.95	2		550	660		PMH550UNE		
		60	20	0.35	1.1	2.1	2	2000	2100			NX7002BKH		
				0.35	1.1	2.1	2	2200	2500				NX7002BKM	
	P	20	8	1.4	0.45	0.95	1.8		330	420			PMZ350UPE	PMZB350UPE
				0.8	0.45	0.95	1.8		550			PMH550UPE		
				0.53	0.45	0.95	1		1000			PMH950UPE		
				0.5	0.45	0.95	1		1020	1270			PMZ950UPE	
		30	8	1	0.45	0.95	2		430	570			PMZ320UPE	
				0.6	0.45	0.95	1.8		850			PMH850UPE		
				10	0.45	0.95	2		1300			PMH1200UPE		
		50	20	0.23	1.1	2.1	1	4500	5700				BSS84AKM	BSS84AKMB

Package												DFN2020MD-6	DFN2020-6
P _{tot} (mW)												1700	1700
Configuration	Pol.	V _{DS} (V)	V _{GS} (V)	I _D (A)	V _{GSth} min. (V)	V _{GSth} max. (V)	ESD (kV)	R _{DS(on)} typ (mΩ) @ V _{GS} =					
								10 V	4.5 V	2.5 V	1.5 V		
Single	N	20	8	10.1	0.4	0.9			8.5	10	35	PMPB8XN	
				12.9	0.4	0.9	2	-	10	12	16	PMPB10XNE	
				11.4	0.4	0.9	2	-	12	15	20	PMPB12UNE	
		30	20	11.3	0.4	0.9	2	-	13	14	17	PMPB13XNE	
				14	1	2	-	10	13	-	-	PMPB10EN	
				10.4	1	2	-	16.5	20.5	-	-	PMPB20EN	
	P	12	8	13	0.4	0.9			13	17	32	PMPB13UP	
				12.7	0.45	0.9			14	19		PMPB14XP	
				10.3	0.47	0.9	2	-	19	22	28	PMPB20XPE	
		20	8	8.8	1	2.5	-	24	32	-	-	PMPB27EP	
				25	10.6	1	2.5		16	22		PMPB16EP	
Dual	N	20	12	5.3	0.4	0.9			3.2	40	60		PMDPB30XN
	P	20	8	4.5	0.45	0.95			58	74	97		PMDPB58UPE
Complementary	P	20	12	4.5	0.47	0.9			55	75	110		PMDPB55XP
				4.5	0.4	0.9			55	75	110		PMCPB5530X

Package												DFN1010D-3	DFN1010B-6
P _{tot} (mW)												1000	350
Configuration	Pol.	V _{DS} (V)	V _{GS} (V)	I _D (A)	V _{GSth} min. (V)	V _{GSth} max. (V)	ESD (kV)	R _{DS(on)} typ (mΩ) @ V _{GS} =					
								10 V	4.5 V	2.5 V	1.5 V		
Single	N	12	8	1.1	0.4	0.9	1	-	34	39	50	PMXB40UNE	
		30	20	3.2	1	2	-	49	56	-	-	PMXB56EN	
		12	8	2.4	0.45	0.95	1.5	-	59	78	198	PMXB65UPE	
	P	20	8	2.9	0.45	0.95	1	-	69	86	205	PMXB75UPE	
		30	20	2.4	1	2.5	1	100	125	-	-	PMXB120EPE	
Dual	N	20	8	0.6	0.45	0.95	1	-	470	620	1125		PMDXB600UNE
	P	20	8	0.6	0.45	0.95	2	-	670	900	1500		PMDXB550UNE
Complementary	N	20	8	0.6	0.45	0.95	1	-	470	620	1125		PMCB900UE
	P	20	8	0.5	0.45	0.95	1	-	1020	1270	2300		