



Intelligent Power Modules (IPMs)

Product	Description	Pricing (\$/Unit)	Compliance	Status	Family	Type	Substrate	Input Logic	Rated Voltage Min (V)	I_{cs} @ 25 °C Min (A)	$V_{CE(sat)}$ @ 25 °C Typ (V)	$R_{DS(on)}$ ()	Emitter Configuration	Shutdown Pin	Mounting Type	Package Type
NFAM5065L4BTL	Intelligent Power Module, SPM31, 650 V, 50A (Low speed Version, NTC option)	21.3328	Pb-free	Active	SPM31	Inverter	DBC	Active High	650	50	1.65		3 emitter pins	Yes	DIP	MINI DIP39, 31.0x54.5
			non AEC-Q and PPAP													
NFAQ1060L36TB	Intelligent Power Module (IPM), 600 V, 10 A	6.2398	Pb-free	Active	Compact IPM	3-Phase Inverter IGBT	DBC	Active High	600	10	1.9		3 Emitter Pin	Yes	DIP	DIP38, 29.6x18.2 EP-4
			non AEC-Q and PPAP													
FAM65V05DF1	Intelligent Power Module (IPM), AEC-Q, Automotive, Inverter 650V,50A	35.9991	AEC Qualified	Active	ASPM27	3-Phase Inverter IGBT	DBC	Active High	650	50	2.25		3 Emitter Pins	Yes	DIP	DIP-027
			PPAP Capable													
			Pb-free													
			Halide free													
FNA21012A	Intelligent Power Module, 1200 V, 10A	30.0	Pb-free	Active	SPM34	3-Phase Inverter IGBT	DBC	Active High	1200	10	2.2		3 Emitter Pins	Yes	DIP	DIP-034
			Halide free													
			non AEC-Q and PPAP													
FNA22512A	Intelligent Power Module, 1200 V, 25A	42.0	Pb-free	Active	SPM34	3-Phase Inverter IGBT	DBC	Active High	1200	25	1.9		3 Emitter Pins	Yes	DIP	DIP-034
			Halide free													
			non AEC-Q and PPAP													
FNA23060	Intelligent Power Module, 600 V, 30A	29.92	Pb-free	Active	SPM34	3-Phase Inverter IGBT	DBC	Active High	600	30	1.5		3 Emitter Pins	Yes	DIP	DIP-034
			Halide free													
			non AEC-Q and PPAP													
FNA23512A	Intelligent Power Module, 1200 V, 35A	40.095	Pb-free	Active	SPM34	3-Phase Inverter IGBT	DBC	Active High	1200	35	1.9		3 Emitter Pins	Yes	DIP	DIP-034
			Halide free													
			non AEC-Q and PPAP													
FNA25012A	Intelligent Power Module, 1200 V, 50 A	59.85	Pb-free	Active	SPM34	3-Phase Inverter IGBT	DBC	Active High	1200	50	2.2		3 Emitter Pins	Yes	DIP	DIP-034
			Halide free													
			non AEC-Q and PPAP													
FNA25060	Intelligent Power Module, 600 V, 50A	32.2353	Pb-free	Active	SPM34	3-Phase Inverter IGBT	DBC	Active High	600	50	1.5		3 Emitter Pins	Yes	DIP	DIP-034
			Halide free													
			non AEC-Q and PPAP													
FNA27560	Intelligent Power Module, 600 V, 75A	51.975	Pb-free	Active	SPM34	3-Phase Inverter IGBT	DBC	Active High	600	75	1.3		3 Emitter Pins	Yes	DIP	DIP-034
			Halide free													
			non AEC-Q and PPAP													
FNA41060	Intelligent Power Module, 600 V, 10A	8.6463	Pb-free	Active	SPM45	3-Phase Inverter IGBT	Ceramic	Active High	600	10	1.7		3 Emitter Pins	No	DIP	CDIP-026
			Halide free													
			non AEC-Q and PPAP													
FNA41060B2	Intelligent Power Module (IPM), Motion Control	7.5011	Pb-free	Active	SPM45	3-Phase Inverter IGBT	Ceramic	Active High	600	10	1.7		3 Emitter Pins	No	DIP	CDIP-026
			Halide free													
			non AEC-Q and PPAP													



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FNA41560T2	Intelligent Power Module (IPM), 600V, 15A	7.1159	Pb-free	Active	SPM45	3-Phase Inverter IGBT	Ceramic	Active High	600	15	1.6		3 Emitter Pins	No	DIP	CDIP-026
			Halide free													
			non AEC-Q and PPAP													
FNB33060T	Intelligent Power Module, 600 V, 30A	11.8209	Pb-free	Active	SPM3V	3-Phase Inverter IGBT	DBC	Active High	600	30	1.6		3 Emitter Pins	No	DIP	DIP-027
			Halide free													
			non AEC-Q and PPAP													
FNB34060T	Intelligent Power Module, 600 V, 40A	16.929	Pb-free	Active	SPM3V	3-Phase Inverter IGBT	DBC	Active High	600	40	1.5		3 Emitter Pins	No	DIP	DIP-027
			Halide free													
			non AEC-Q and PPAP													
FNB34060T6	Intelligent Power Module, 600 V, 40A		Pb-free	Active	SPM3V	3-Phase Inverter IGBT	DBC	Active High	600	40	1.5		3 Emitter Pins	No	DIP	SPMCF-027 / PDD, STD, SPM27-CF SHORT LEAD (Special CUSTOMER SPECIFIC OPTION)
			Halide free													
			non AEC-Q and PPAP													
FNB35060T	Intelligent Power Module, 600 V, 50A	17.3712	Pb-free	Active	SPM3V	3-Phase Inverter IGBT	DBC	Active High	600	50	1.65		3 Emitter Pins	No	DIP	DIP-027
			Halide free													
			non AEC-Q and PPAP													
FNB40560	Intelligent Power Module, 600 V, 5A	6.1475	Pb-free	Active	SPM45	3-Phase Inverter IGBT	Ceramic	Active High	600	5	1.4		3 Emitter Pins	No	DIP	CDIP-026
			Halide free													
			non AEC-Q and PPAP													
FNB41060	Intelligent Power Module, 600 V, 10A	7.071	Pb-free	Active	SPM45	3-Phase Inverter IGBT	Ceramic	Active High	600	10	1.5		3 Emitter Pins	No	DIP	CDIP-026
			Halide free													
			non AEC-Q and PPAP													
FNB43060T2	Intelligent Power Module, 600 V, 30A	8.0177	Pb-free	Active	SPM45	3-Phase Inverter IGBT	Ceramic	Active High	600	30	1.65		3 Emitter Pins	No	DIP	CDIP-026
			Halide free													
			non AEC-Q and PPAP													
FNC42060F2	Intelligent Power Module (IPM), 600V, 20A	7.8751	Pb-free	Active	SPM45	3-Phase Inverter IGBT	Ceramic	Active High	600	20	1.85		3 Emitter Pins	No	DIP	CDIP-026
			Halide free													
			non AEC-Q and PPAP													
FND42060F2	Intelligent Power Module (IPM), Motion Control	9.207	Pb-free	Active	SPM45	3-Phase Inverter IGBT	Ceramic	Active High	600	20	1.85		3 Emitter Pins		DIP	CDIP-026
			Halide free													
			non AEC-Q and PPAP													
FND43060T2	Intelligent Power Module, 600 V, 30A	10.35	Pb-free	Active	SPM45	3-Phase Inverter IGBT	Ceramic	Active High	600	30	1.65		3 Emitter Pins	Yes	DIP	CDIP-026
			Halide free													
			non AEC-Q and PPAP													



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FPAB20BH60B	PFC Intelligent Power Module, 600V, 20A	10.5176	Pb-free	Active	SPM3V PFC	Single Boost PFC with Input Bridge Rectifier	DBC	Active High	600	20	3	-		Yes	DIP	DIP-027
			non AEC-Q and PPAP													
FPAB30BH60B	PFC Intelligent Power Module, 600V, 30A	8.8946	Pb-free	Active	SPM3V PFC	Single Boost PFC with Input Bridge Rectifier	DBC	Active High	600	30	2.8	-		Yes	DIP	DIP-027
			non AEC-Q and PPAP													
FPAM30LH60	PFC Intelligent Power Module, 600V, 30A	19.0	Pb-free	Active	SPM2 PFC	Interleave PFC with Input Bridge Rectifier	DBC	Active High	600	30	2.2	-	Combined Emitter Pin	Yes	DIP	DIP-032
			non AEC-Q and PPAP													
FPAM50LH60	PFC Intelligent Power Module, 600V, 50A	21.0	Pb-free	Active	SPM2 PFC	Interleave PFC with Input Bridge Rectifier	DBC	Active High	600	50	2.2	-	Combined Emitter Pin	Yes	DIP	DIP-032
			non AEC-Q and PPAP													
FPDB40PH60B	PFC Intelligent Power Module, 600V, 40A	11.2861	Pb-free	Active	SPM3V PFC	Bridgeless PFC Module with Shunt Resistor	DBC	Active High	600	40	2.1	-	Combined Emitter Pin	Yes	DIP	DIP-027
			non AEC-Q and PPAP													
FPDB60PH60B	PFC Intelligent Power Module, 600V, 60A	16.53	Pb-free	Active	SPM3V PFC	Bridgeless PFC Module with Shunt Resistor	DBC	Active High	600	60	2.5	-	Combined Emitter Pin	Yes	DIP	DIP-027
			non AEC-Q and PPAP													
FSB50250A	Intelligent Power Module, 500V, 2A	2.8939	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	500	1.2	-	2.5	3 Source Pins	No	DIP	DIP-023
			Halide free													
			non AEC-Q and PPAP													
FSB50250AS	Intelligent Power Module, 500V, 2A	2.8555	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	500	1.2	-	2.5	3 Source Pins	No	SMD	SMD-023
			Halide free													
			non AEC-Q and PPAP													
FSB50250AT	Intelligent Power Module (IPM), Motion Control	2.985	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	500	1.2	-	2.5	3 Source Pins	No	DIP	DIP-023
			Halide free													
			non AEC-Q and PPAP													
FSB50250B	Intelligent Power Module, 500V, 2A	2.8868	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	500	2.2		5.5	3 Source Pins	No	DIP	DIP-023
			non AEC-Q and PPAP													
FSB50250BS	Intelligent Power Module, 500V, 2A	2.9681	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	500	2.2		5.5	3 Source Pins	No	SMD	SMD-023
			non AEC-Q and PPAP													
FSB50325A	Intelligent Power Module, 250V, 3A	2.7566	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	250	1.7	-	1.1	3 Source Pins	No	DIP	DIP-023
			Halide free													
			non AEC-Q and PPAP													
FSB50450A	Intelligent Power Module, 500V, 4A	3.1185	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	500	1.5	-	1.9	3 Source Pins	No	DIP	DIP-023
			Halide free													
			non AEC-Q and PPAP													
FSB50450AS	Intelligent Power Module, 500V, 4A	3.0623	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	500	1.5	-	1.9	3 Source Pins	No	SMD	SMD-023
			Halide free													
			non AEC-Q and PPAP													



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FSB50450B	Intelligent Power Module, 500V, 4A	3.292	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	500	2.2	-	4.3	3 Source Pins	No	DIP	DIP-023
			Halide free													
			non AEC-Q and PPAP													
FSB50450BL	Intelligent Power Module, 500V, 2.2A, Slow ver for EMI optimization	3.2845	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	500	2.2		4.3	3 Source Pins	No	DIP	DIP-023
			Halide free													
			non AEC-Q and PPAP													
FSB50450BS	Intelligent Power Module, 500V, 4A	3.2063	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	500	2.2	-	4.3	3 Source Pins	No	SMD	SMD-023
			Halide free													
			non AEC-Q and PPAP													
FSB50450BSL	Intelligent Power Module, 500V, 2.2A, Slow ver for EMI optimization	3.2845	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	500	2.2		4.3	3 Source Pins	No	SMD	SMD-023
			Halide free													
			non AEC-Q and PPAP													
FSB50550A	Intelligent Power Module, 500V, 5A	3.7043	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	500	2	-	1	3 Source Pins	No	DIP	DIP-023
			Halide free													
			non AEC-Q and PPAP													
FSB50550AS	Intelligent Power Module, 500V, 5A	4.1822	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	500	2	-	1	3 Source Pins	No	SMD	SMD-023
			Halide free													
			non AEC-Q and PPAP													
FSB50550AT	Intelligent Power Module (IPM), Motion Control	4.3217	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	500	2	-	1	3 Source Pins	No	DIP	DIP-023
			Halide free													
			non AEC-Q and PPAP													
FSB50550B	Intelligent Power Module, 500V, 5A	3.9	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	500	-	-	3	3 Source Pins	No	DIP	DIP-023
			non AEC-Q and PPAP													
FSB50550BL	Intelligent Power Module, 500V, 3A, Slow ver for EMI optimization	3.7597	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	500	3		2.3	3 Source Pins	No	DIP	DIP-023
			Halide free													
			non AEC-Q and PPAP													
FSB50550BS	Intelligent Power Module (IPM), Motion Control	3.7702	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	500	-	-	3	3 Source Pins	No	SMD	SMD-023
			non AEC-Q and PPAP													
FSB50550BSL	Intelligent Power Module, 500V, 3A, Slow ver for EMI optimization	3.6824	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	500	3		2.3	3 Source Pins	No	SMD	SMD-023
			Halide free													
			non AEC-Q and PPAP													
FSB50650B	Intelligent Power Module (IPM), 500V, 2.5A	4.3932	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	500	2.5		1.43	3 Source Pins	No	DIP	DIP-023
			non AEC-Q and PPAP													
FSB50650BS	Intelligent Power Module (IPM), 500V, 2.5A	4.481	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	500	2.5		1.43	3 Source Pins	No	SMD	SMD-023
			non AEC-Q and PPAP													



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FSB50760SFS	Intelligent Power Module, 600V, 7A	5.6311	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	600	3.6	-	0.46	3 Source Pins	No	SMD	SMD-023
			non AEC-Q and PPAP													
FSB50825A	Intelligent Power Module, 250V, 8A	3.578	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	250	3.6	-	0.33	3 Source Pins	No	DIP	DIP-023
			Halide free													
FSB50825AB	Intelligent Power Module, 250V, 8A	3.3179	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	250	3.6	-	0.33	3 Source Pins	No	DIP	DIP-021
			Halide free													
FSB50825AS	Intelligent Power Module, 250V, 8A	5.3086	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	250	3.6	-	0.33	3 Source Pins	No	SMD	SMD-023
			Halide free													
FSB50825B	Intelligent Power Module (IPM), 500 V, 2A	3.7247	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	250	3.6	-	0.55	3 Source Pins	No	DIP	DIP-023
			Halide free													
FSB50825BS	Intelligent Power Module (IPM), 250 V, 3.6A	3.7784	Pb-free	Active	SPM5	3-Phase Inverter MOSFET	Full Pack	Active High	250	3.6	-	0.55	3 Source Pins	No	SMD	SMD-023
			Halide free													
FSB70250	Intelligent Power Module, 500V, 2A	3.0	Pb-free	Active	SPM7	3-Phase Inverter MOSFET	PQFN	Active High	500	3.3	-	2.5	3 Source Pins	Yes	SMD	PQFN-27
			Halide free													
FSB70450	Intelligent Power Module, 500V, 4A	3.6346	Pb-free	Active	SPM7	3-Phase Inverter MOSFET	PQFN	Active High	500	4.8	-	1.9	3 Source Pins	Yes	SMD	PQFN-27
			Halide free													
FSB70550	Intelligent Power Module, 500V, 5A	3.6929	Pb-free	Active	SPM7	3-Phase Inverter MOSFET	PQFN	Active High	500	5.3	-	1.6	3 Source Pins	Yes	SMD	PQFN-27
			Halide free													
FSBB10CH120D	Intelligent Power Module, 1200V, 10A	17.0298	Pb-free	Active	SPM3V	3-Phase Inverter IGBT	DBC	Active High	1200	10	2.2		3 Emitter Pins	Yes	DIP	DIP-027
			Halide free													
FSBB10CH120DF	Intelligent Power Module (IPM), Motion Control, 1200 V	16.2236	Pb-free	Active	SPM3V	3-Phase Inverter IGBT	DBC	Active High	1200	10	2.8		3 Emitter Pins	Yes	DIP	DIP-027
			Halide free													
FSBB15CH120D	Intelligent Power Module, 1200V, 15A	21.087	Pb-free	Active	SPM3V	3-Phase Inverter IGBT	DBC	Active High	1200	15	2		3 Emitter Pins	Yes	DIP	DIP-027
			Halide free													
			non AEC-Q and PPAP													
			Halide free													



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FSBB15CH120DF	Intelligent Power Module (IPM), Motion Control	19.5999	Pb-free	Active	SPM3V	3-Phase Inverter IGBT	DBC	Active High	1200	15	2		3 Emitter Pins	Yes	DIP	DIP-027
			Halide free													
			non AEC-Q and PPAP													
FSBB15CH60C	Intelligent Power Module, 600V, 15A	11.1069	Pb-free	Active	SPM3V	3-Phase Inverter IGBT	DBC	Active High	600	15	2		3 Emitter Pins	Yes	DIP	DIP-027
			Halide free													
			non AEC-Q and PPAP													
FSBB15CH60D	Intelligent Power Module, 600V, 15A	13.365	Pb-free	Active	SPM3V	3-Phase Inverter IGBT	DBC	Active High	600	15	2		3 Emitter Pins	Yes	DIP	DIP-027
			Halide free													
			non AEC-Q and PPAP													
FSBB20CH120D	Intelligent Power Module, 1200V, 20A	23.0	Pb-free	Active	SPM3V	3-Phase Inverter IGBT	DBC	Active High	1200	20	2.2		3 Emitter Pins	Yes	DIP	DIP-027
			Halide free													
			non AEC-Q and PPAP													
FSBB20CH120DF	Intelligent Power Module (IPM), Motion Control	23.0	Pb-free	Active	SPM3V	3-Phase Inverter IGBT	DBC	Active High	1200	20	2.2		3 Emitter Pins	Yes	DIP	DIP-027
			Halide free													
			non AEC-Q and PPAP													
FSBB20CH60C	Intelligent Power Module, 600V, 20A	10.5769	Pb-free	Active	SPM3V	3-Phase Inverter IGBT	DBC	Active High	600	20	2		3 Emitter Pins	Yes	DIP	DIP-027
			Halide free													
			non AEC-Q and PPAP													
FSBB20CH60D	Intelligent Power Module, 600V, 20A	13.5064	Pb-free	Active	SPM3V	3-Phase Inverter IGBT	DBC	Active High	600	20	2		3 Emitter Pins	Yes	DIP	DIP-027
			Halide free													
			non AEC-Q and PPAP													
NFA50460R47	Intelligent Power Module, 600V, 4A, DIP	3.0794	Pb-free	Active	SPM5	3-Phase Inverter IGBT	Full Pack	Active High	600	4	1.85	-	3 Source Pins	No	SMD	SMD-023
			Halide free													
			non AEC-Q and PPAP													
NFA50460R4B	Intelligent Power Module, 600V, 4A, DIP	3.0144	Pb-free	Active	SPM5	3-Phase Inverter IGBT	Full Pack	Active High	600	4	1.85	-	3 Source Pins	No	DIP	DIP-023
			Halide free													
			non AEC-Q and PPAP													
NFAL5065L4B	Intelligent Power Module, SPM49, 650 V, 50A	26.6275	Pb-free	Active	SPM49	3-Phase Inverter IGBT	DBC	Active High	650	50	1.55		3 Emitter Pins	Yes	DIP	DIP30, 79x30/S PM49 CAA
			Halide free													
			non AEC-Q and PPAP													
NFAL5065L4BT	Intelligent Power Module, SPM49, 650 V, 50A (NTC option)	29.2751	Pb-free	Active	SPM49	3-Phase Inverter IGBT	DBC	Active High	650	50	1.55		3 Emitter Pins	Yes	DIP	DIP31, 79x30/S PM49 CAB
			Halide free													
			non AEC-Q and PPAP													
NFAL7565L4B	Intelligent Power Module, SPM49, 650 V, 75A	38.61	Pb-free	Active	SPM49	3-Phase Inverter IGBT	DBC	Active High	650	75	1.55		3 Emitter Pins	Yes	DIP	DIP30, 79x30/S PM49 CAA
			Halide free													
			non AEC-Q and PPAP													
NFAL7565L4BT	Intelligent Power Module, SPM49, 650 V, 75A (NTC option)	34.1	Pb-free	Active	SPM49	3-Phase Inverter IGBT	DBC	Active High	650	75	1.55		3 Emitter Pins	Yes	DIP	DIP31, 79x30/S PM49 CAB
			Halide free													
			non AEC-Q and PPAP													
NFAM0512L5B	Intelligent Power Module, SPM31, 1200V, 5A	15.5	Pb-free	Active	SPM31	3-Phase Inverter IGBT	DBC	Active High	1200	5	1.75		3 Emitter Pins	Yes	DIP	DIP39, 54.5x31.0 EP-2
			Halide free													
			non AEC-Q and PPAP													
NFAM0512L5BT	Intelligent Power Module, SPM31, 1200V, 5A (NTC option)	15.8	Pb-free	Active	SPM31	3-Phase Inverter IGBT	DBC	Active High	1200	5	1.75		3 Emitter Pins	Yes	DIP	MINI DIP39, 31.0x54.5
			Halide free													
			non AEC-Q and PPAP													



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Product	Description	Pricing (\$/Unit)	Compliance	Status	Family	Type	Substrate	Input Logic	Rated Voltage Min (V)	I_{cs} @ 25 °C Min (A)	$V_{CE(sat)}$ @ 25 °C Typ (V)	$R_{DS(on)}$ ()	Emitter Configuration	Shutdown Pin	Mounting Type	Package Type
NFAM1012L5B	Intelligent Power Module, SPM31, 1200V, 10A	20.0	Pb-free	Active	SPM31	3-Phase Inverter IGBT	DBC	Active High	1200	10	1.85		3 Emitter Pins	Yes	DIP	DIP39, 54.5x31.0 EP-2
			non AEC-Q and PPAP													
NFAM1012L5BT	Intelligent Power Module, SPM31, 1200V, 10A (NTC option)	31.185	Pb-free	Active	SPM31	3-Phase Inverter IGBT	DBC	Active High	1200	10	1.85		3 Emitter Pins	Yes	DIP	MINI DIP39, 31.0x54.5
			non AEC-Q and PPAP													
NFAM2012L5B	Intelligent Power Module, SPM31, 1200V, 20A	25.2	Pb-free	Active	SPM31	3-Phase Inverter IGBT	DBC	Active High	1200	20	1.85		3 Emitter Pins	Yes	DIP	DIP39, 54.5x31.0 EP-2
			non AEC-Q and PPAP													
NFAM2012L5BT	Intelligent Power Module, SPM31, 1200 V, 20A (NTC option)	25.5	Pb-free	Active	SPM31	3-Phase Inverter IGBT	DBC	Active High	1200	20	1.85		3 Emitter Pins	Yes	DIP	MINI DIP39, 31.0x54.5
			non AEC-Q and PPAP													
NFAM2065L4B	Intelligent Power Module, SPM31, 650 V, 20 A	14.0	Pb-free	Active	SPM31	3-Phase Inverter IGBT	DBC	Active High	650	20	1.6		3 Emitter Pins	Yes	DIP	DIP39, 54.5x31.0 EP-2
			non AEC-Q and PPAP													
NFAM2065L4BT	Intelligent Power Module, SPM31, 650 V, 20 A (NTC option)	14.3	Pb-free	Active	SPM31	3-Phase Inverter IGBT	DBC	Active High	650	20	1.6		3 Emitter Pins	Yes	DIP	MINI DIP39, 31.0x54.5
			non AEC-Q and PPAP													
NFAM3065L4B	Intelligent Power Module, SPM31, 650 V, 30A	14.7	Pb-free	Active	SPM31	3-Phase Inverter IGBT	DBC	Active High	650	30	1.6		3 Emitter Pins	Yes	DIP	DIP39, 54.5x31.0 EP-2
			non AEC-Q and PPAP													
NFAM3065L4BL	Intelligent Power Module, SPM31, 650 V, 30A (Low speed version)		Pb-free	Active	SPM31	3-Phase Inverter IGBT	DBC	Active High	650	30	1.6		3 emitter pins	Yes	DIP	DIP39, 54.5x31.0 EP-2
			non AEC-Q and PPAP													
NFAM3065L4BT	Intelligent Power Module, SPM31, 650 V, 30A (NTC option)	15.0	Pb-free	Active	SPM31	3-Phase Inverter IGBT	DBC	Active High	650	30	1.6		3 Emitter Pins	Yes	DIP	MINI DIP39, 31.0x54.5
			non AEC-Q and PPAP													
NFAM3065L4BTL	Intelligent Power Module, SPM31, 650 V, 30A (Low speed version, NTC option)		Pb-free	Active	SPM31	3-Phase Inverter IGBT	DBC	Active High	650	30	1.6		3 emitter pins	Yes	DIP	MINI DIP39, 31.0x54.5
			non AEC-Q and PPAP													
NFAM5065L4B	Intelligent Power Module, SPM31, 650 V, 50A	16.8198	Pb-free	Active	SPM31	3-Phase Inverter IGBT	DBC	Active High	650	50	1.65		3 Emitter Pins	Yes	DIP	DIP39, 54.5x31.0 EP-2
			non AEC-Q and PPAP													
NFAM5065L4BT	Intelligent Power Module, SPM31, 650 V, 50A (NTC option)	16.7157	Pb-free	Active	SPM31	3-Phase Inverter IGBT	DBC	Active High	650	50	1.65		3 Emitter Pins	Yes	DIP	MINI DIP39, 31.0x54.5
			non AEC-Q and PPAP													
NFAP0560L3TT	Intelligent Power Module (IPM), 600 V 5 A with advanced SIP package	5.9762	Pb-free	Active	SIPK	3-Phase Inverter IGBT	IMS Full Pack	Active High	600	5	2		3 Emitter pins	Yes	Vertical SIP	SIP29, 44.0x20.9 FP-1
			non AEC-Q and PPAP													
NFAP1060L3TT	Intelligent Power Module (IPM), 600 V 10 A with advanced SIP package	7.0331	Pb-free	Active	SIPK	3-Phase Inverter IGBT	IMS Full Pack	Active High	600	10	2.1		3 Emitter Pins	Yes	Vertical SIP	SIP29, 44.0x20.9 FP-1
			non AEC-Q and PPAP													
NFAQ0560R43T	Intelligent Power Module (IPM), 600V, 5A	5.3332	Pb-free	Active	Compact IPM	3-Phase Inverter IGBT	DBC	Active High	600	5	1.8	N/A	3 Emitter Pins	Yes	DIP	DIP38, 29.60x18.20 EP5
			non AEC-Q and PPAP													
NFAQ0860L33T	Intelligent Power Module (IPM), 600V, 8A, Long lead	5.7502	Pb-free	Active	Compact IPM	3-Phase Inverter IGBT	DBC	Active High	600	8	2.4		3 Emitter Pins	Yes	DIP	DIP38, 29.6x18.2 EP-3
			non AEC-Q and PPAP													
NFAQ0860L36T	Intelligent Power Module (IPM), 600 V, 8 A, Short lead	5.7502	Pb-free	Active	Compact IPM	3-Phase Inverter IGBT	DBC	Active High	600	8	2.4	N/A	3 Emitter Pins	Yes	DIP	DIP38, 29.6x18.2 EP-4
			non AEC-Q and PPAP													



Intelligent Power Modules (IPMs)

Product	Description	Pricing (\$/Unit)	Compliance	Status	Family	Type	Substrate	Input Logic	Rated Voltage Min (V)	I_{cs} @ 25 °C Min (A)	$V_{CE(sat)}$ @ 25 °C Typ (V)	$R_{DS(on)}$ ()	Emitter Configuration	Shutdown Pin	Mounting Type	Package Type
NFAQ1060L33T	Intelligent Power Module (IPM), 600 V, 10 A, Long lead	7.0209	Pb-free	Active	Compact IPM	3-Phase Inverter IGBT	DBC	Active High	600	10	1.9	N/A	3 Emitter Pins	Yes	DIP	DIP38, 29.6x18.2 EP-3
			non AEC-Q and PPAP													
NFAQ1060L36T	Intelligent Power Module (IPM), 600 V, 10 A	7.0209	Pb-free	Active	Compact IPM	3-Phase Inverter IGBT	DBC	Active High	600	10	1.9	N/A	3 Emitter Pins	Yes	DIP	DIP38, 29.6x18.2 EP-4
			non AEC-Q and PPAP													
NFAQ1560R43T	Intelligent Power Module (IPM), 600V, 15A	5.9121	Pb-free	Active	Compact IPM	3-Phase Inverter IGBT	DBC	Active High	600	15	1.8	N/A	3 Emitter Pins	Yes	DIP	DIP38 29.60x18.20 EP5
			non AEC-Q and PPAP													
NFCS1060L3TT	Intelligent Power Module (IPM), PFC Combo, 600V, 10A	12.7086	Pb-free	Active	SIP2A Combo	3-Phase Inverter with PFC	IMS Full Pack	Active High	600	10	2		3 Emitter Pins	Yes	Vertical SIP	SIP35 56x25.8 (SIP2A-2)
			non AEC-Q and PPAP													
NFL25065L4BT	PFC SPM® 2 Series for 2-Phase Interleaved PFC	22.2185	Pb-free	Active	SPM2 PFC	Interleaves PFC with Input Bridge Rectifier	DBC	Active High	650	50	1.55		Combined Emitter Pin	Yes	DIP	DIP-032
			non AEC-Q and PPAP													
NFP36060L42T	SPM® 3 27 Series Intelligent Power Module (IPM) Bridgeless PFC, 600 V, 60 A	13.1214	Pb-free	Active	SPM3V PFC	Bridgeless PFC Module with Shunt Resistor	DBC	Active High	600	60	1.55		Combined Emitter Pin with Internal Sense Resistor	Yes	DIP	DIP-027
			non AEC-Q and PPAP													
NFVA22512NP2T	Intelligent Power Module (IPM), AEC-Q & AQG324, Automotive, Inverter 1200V, 25A	44.55	AEC Qualified	Active	ASPM34	3-Phase Inverter IGBT	DBC	Active High	1200	25	1.9		3 Emitter Pins	Yes	DIP	DIP34 80x33, AUTOMOTIVE MODULE
			PPAP Capable													
			Pb-free													
NFVA23512NP2T	Intelligent Power Module (IPM), AEC-Q & AQG324, Automotive, Inverter 1200V, 35A	43.8441	AEC Qualified	Active	ASPM34	3-Phase Inverter IGBT	DBC	Active High	1200	35	1.9		3 Emitter Pins	Yes	DIP	DIP34 80x33, AUTOMOTIVE MODULE
			PPAP Capable													
			Pb-free													
NFVA25012NP2T	Intelligent Power Module (IPM), AEC-Q & AQG324, Automotive, Inverter 1200V, 50A	66.825	AEC Qualified	Active	ASPM34	3-Phase Inverter IGBT	DBC	Active High	1200	50	1.9		3 Emitter Pins	Yes	DIP	DIP34 80x33, AUTOMOTIVE MODULE
			PPAP Capable													
			Pb-free													
NFVA33065L32	Intelligent Power Module (IPM), AEC-Q & AQG324, Automotive, Inverter, 650V, 30A	17.0	AEC Qualified	Active	ASPM27	3-Phase Inverter IGBT	DBC	Active High	650	30	1.6		3 Emitter Pins	Yes	DIP	DIP-027
			PPAP Capable													
			Pb-free													
			Halide free													
NFVA33065L42	Intelligent Power Module (IPM), ASPM27-V3, AEC-Q & AQG324, Automotive, Inverter 650V, 30A	17.0	AEC Qualified	Active	ASPM27	3-Phase Inverter IGBT	DBC	Active High	650V	30A	1.6V	NA	3 Emitter Pin	Yes	Vertical SIP	DIP-027
			PPAP Capable													
			Pb-free													
			Halide free													
NFVA34065L32	Intelligent Power Module (IPM), AEC-Q & AQG324, Automotive, Inverter 650V, 40A	22.6	AEC Qualified	Active	ASPM27	3-Phase Inverter IGBT	DBC	Active High	650	40	1.5		3 Emitter Pins	Yes	DIP	DIP-027
			PPAP Capable													
			Pb-free													
			Halide free													
NFVA35065L32	Intelligent Power Module (IPM), AEC-Q & AQG324, Automotive, Inverter 650V, 50A	20.1357	AEC Qualified	Active	ASPM27	3-Phase Inverter IGBT	DBC	Active High	650	50	1.75		3 Emitter Pins	Yes	DIP	DIP-027
			PPAP Capable													
			Pb-free													
			Halide free													

Intelligent Power Modules (IPMs)

Product	Description	Pricing (\$/Unit)	Compliance	Status	Family	Type	Substrate	Input Logic	Rated Voltage Min (V)	I_{cs} @ 25 °C Min (A)	$V_{CE(sat)}$ @ 25 °C Typ (V)	$R_{DS(on)}$ ()	Emitter Configuration	Shutdown Pin	Mounting Type	Package Type
NFVA35065L42	Intelligent Power Module (IPM), ASPM27-V3, AEC-Q & AQG324. Automotive, Inverter 650V, 50A, Fast Switching	19.0	AEC Qualified	Active	ASPM27	3-Phase Inverter IGBT	DBC	Active High	650V	50A	1.6V	NA	3 Emitter Pin	Yes	Horizontal SIP	DIP-027
			PPAP Capable													
			Pb-free													
			Halide free													
NFVA36065L42	Intelligent Power Module (IPM), ASPM27-V3, AEC-Q & AQG324. Automotive, Inverter 650V, 60A, Fast Switching	20.0	AEC Qualified	Active	ASPM27	3-Phase Inverter IGBT	DBC	Active High	650V	60A	1.8V	NA	3 Emitter Pin	Yes	Horizontal SIP	DIP-027
			PPAP Capable													
			Pb-free													
			Halide free													
STK541UC62K-E	Intelligent Power Module (IPM), 600 V, 10 A	10.995	Pb-free	Active	SIP1	3-Phase Inverter IGBT	IMS Full Pack	Active Low	600	10	1.4	N/A	Combined Emitter Pin with Internal Sense Resistor	Yes	Vertical SIP	SIP23, 62x21.8 FP4
			non AEC-Q and PPAP													
STK544UC63K-E	Intelligent Power Module (IPM), 600 V, 10 A	8.6589	Pb-free	Active	SIP1	3-Phase Inverter IGBT	IMS Full Pack	Active Low	600	10	2.1		3 Emitter Pins	Yes	Vertical SIP	SIP23, 62x21.8 FP4
			non AEC-Q and PPAP													