



# POWER MOSFETs

Automotive Applications



Dedicated Automotive Process Flow Reduces Defects

## KEY BENEFITS

- Process design optimized for automotive excellence
- AEC-Q101 qualified
- Up to 175 °C
- Low on-resistance n- and p-channel Trench technologies
- Includes innovative, space saving package options
  - 5.13 mm x 6.15 mm x 1.07 mm PowerPAK® SO-8L is half the size of DPAK with the same on-resistance
    - Thermal resistance as low as 1.5 °C/W
    - EU Annex II compliant
  - 3.3 mm x 3.3 mm x 1.04 mm PowerPAK 1212-8 is 1/3 the size of SO-8, with similar on-resistance
    - Thermal resistance as low as 2.4 °C/W
    - EU Annex II compliant (most devices)



# POWER MOSFETs

Vishay Siliconix

## Automotive

Part Number	Package	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	R <sub>DS(ON)</sub> (Ω)		I <sub>D</sub> (A)	P <sub>D</sub> (W)	Q <sub>g</sub> (nC)		
				V <sub>GS</sub> = 10 V	V <sub>GS</sub> = 4.5 V			V <sub>GS</sub> = 10 V	V <sub>GS</sub> = 4.5 V	
<b>Single N-Channel</b>										
SQV90N06-05	TO-262	60	20	0.0052		90	350	155		
SQM85N03-06P	D2PAK (TO-263)	30	20	0.006	0.0085	85	100	48		
SQM120N04-1m7L		40	20	0.0017	0.002	120	437.5	240		
SQM110N05-06L		55	20	0.006		110	158	65		
SQM110N06-04L		60	20	0.0036	0.005	120	437.5	150		
SQM110N08-05		75	20	0.0048		120	437.5	145		
SQM110N10-09		100	20	0.0095		120	375	110		
SQM85N15-19		150	20	0.019		85	375	76		
SQD50N02-04		DPAK (TO-252)	20	20	0.0043	0.006	34	136		40
SQD50N03-06P	30			0.0065		84	88		21	
SQD50N03-09	30		20	0.01		62	8.3		13	
SQD50N04-09H	40		20	0.009		50	83.5	55		
SQD45N05-20L	50		20	0.018	0.02	50	75	43		
SQD35N05-26L	55		20	0.02	0.026	35	50		10.5	
SQD50N06-07L	60		20	0.0076	0.009	50	136	47		
SQD40N10-25	100		20	0.025	0.029	40	136	40		
SQD25N15-52	150		20	0.052		25	136	33		
SQR50N03-06P	Reverse DPAK		30	20	0.0065	0.0095	84	88		21
SQR50N06-07L			60	20	0.0076	0.009	50	136	47	
SQR40N10-25		100	20	0.025	0.029	40	136	40		
SQJ848EP	PowerPAK SO-8L	40	20	0.0075	0.012	47	36	15		
SQJ850EP		60	20	0.022		6.2	1.8	18		
SQJ456EP		100	20	0.028		5.7	5.2	36		
SQ4410EY	SO-8	30	20	0.0135	0.02	10	2.5	20		
SQ4840EY		40	20	0.009		10	1.56		18.5	
SQ4470EY		60	20	0.012	0.014	9	1.85	46		
SQS404EN	PowerPAK 1212-8	30	12	0.013	0.015	16	33	7.3		
SQS400EN		40	20	0.018	0.032	14	52			
SQ7414EN		60	20	0.025	0.036	8.7	3.8	16		
SQ3442EV	TSOP-6	20	12		0.057	3	0.86		3	
SQ3456EV		30	20	0.035	0.052	4.5	1.1	8.6		
SQ3418EEV		40	12	0.032	0.046	7.4	2		12	
SQ3426EEV		60	12	0.045	0.066	4	1.1		8	
SQ2360EES	SOT-23	60	20	0.066	0.09	2.3	1.66	4.5		
SQ1420EEH	SC70-6	60	12	0.15	0.285	2.8	3.3		1.9	

## Automotive, continued

Part Number	Package	V <sub>DS</sub> (V)	V <sub>GS</sub> (V)	R <sub>DS(ON)</sub> (Ω)		I <sub>D</sub> (A)	P <sub>D</sub> (W)	Q <sub>g</sub> (nC)	
				V <sub>GS</sub> = 10 V	V <sub>GS</sub> = 4.5 V			V <sub>GS</sub> = 10 V	V <sub>GS</sub> = 4.5 V
<b>Single P-Channel</b>									
SQM75P03-07	D2PAK (TO-263)	- 30	20	0.007		75	187	160	
SQM110P04-04L		- 40	20	0.0038	0.0065	120	375	235	
SQM110P06-07L		- 60	20	0.0067	0.0088	120	375	230	
SQD45P03-12	DPAK (TO-252)	- 30	20	0.012	0.029	15	94	60	
SQD50P04-09L		- 40	20	0.0094	0.019	50	136	100	
SQD50P06-15L		- 60	20	0.015	0.02	50	130	110	
SQD19P06-60L		- 60	20	0.055	0.1	19	46	26	
SQJ463EP	PowerPAK SO-8L	- 40	20	0.01	0.015	11	1.9	121	
SQJ461EP		- 60	20	0.015	0.02	8.6	1.9	121	
SQ4401DY	SO-8	- 40	20	0.014		8.7	1.8		40
SQS405EN	PowerPAK 1212-8	- 12	8		0.02	17.5	39		75
SQS401EN		- 40	20	0.029	0.047	12	52		
SQ7415EN		- 60	20	0.065	0.11	5.7	3.8	15	
SQ2319ES	SOT-23	- 40	20	0.082	0.13	3.3	3	11.3	
<b>Dual N-Channel</b>									
SQJ844EP	PowerPAK SO-8L	30	20	0.024	0.037	6.4	1.4	11	
SQJ970EP		40	20	0.02	0.028	6.4	1.4	23	
SQ4936EY	SO-8	30	20	0.036		4.4	1.1	13	
SQ4942EY		40	20	0.02	0.026	5.3	1.1	21	
SQ4946EY		60	20	0.055	0.075	4.5	2.4	19	
SQ1912EEH	SC-70	20	12		0.28	1.2	1.5		0.65
SQ1026X	SC89-6	60	20	1.4		0.31	0.25		0.6
<b>Dual P-Channel</b>									
SQJ941EP	PowerPAK SO-8L	- 30	20	0.024	0.038	6.8	1.4	42	

For a full and latest list of devices, please visit <http://www.vishay.com/automotive-mosfets/>

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