



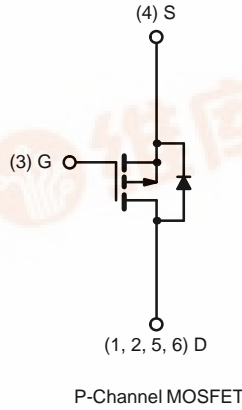
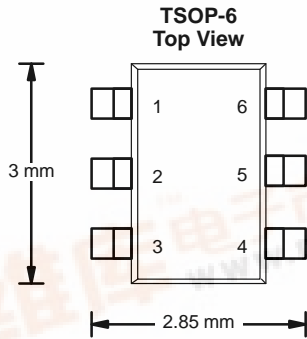
New Product

Si3459DV
Vishay Siliconix

P-Channel 60-V (D-S) MOSFET

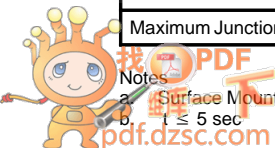
PRODUCT SUMMARY		
V _{DS} (V)	r _{DS(on)} (Ω)	I _D (A)
-60	0.220 @ V _{GS} = -10 V	±2.2
	0.310 @ V _{GS} = -4.5 V	±1.9

TrenchFET[®]
Power MOSFETs



ABSOLUTE MAXIMUM RATINGS (T _A = 25°C UNLESS OTHERWISE NOTED)			
Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V _{DS}	-60	V
Gate-Source Voltage	V _{GS}	±20	
Continuous Drain Current (T _J = 150°C) ^{a, b}	T _A = 25°C	±2.2	A
	T _A = 70°C	±1.7	
Pulsed Drain Current	I _{DM}	±10	
Single Avalanche Current (L = 0.1 mH)	I _{AS}	-7	
Maximum Power Dissipation ^{a, b}	T _A = 25°C	2	W
	T _A = 70°C	1.3	
Operating Junction and Storage Temperature Range	T _J , T _{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS				
Parameter	Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient ^a	R _{thJA}	t ≤ 5 sec	62.5	°C/W
		Steady State	106	
Maximum Junction-to-Lead	R _{thJL}	35		



Notes:
a. Surface Mounted on FR4 Board.
b. t ≤ 5 sec

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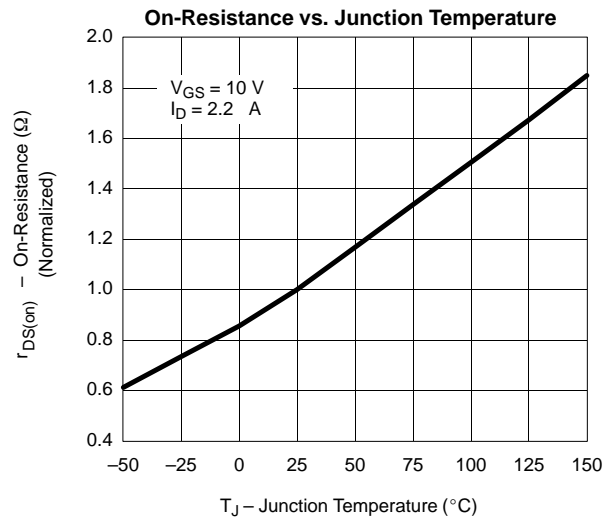
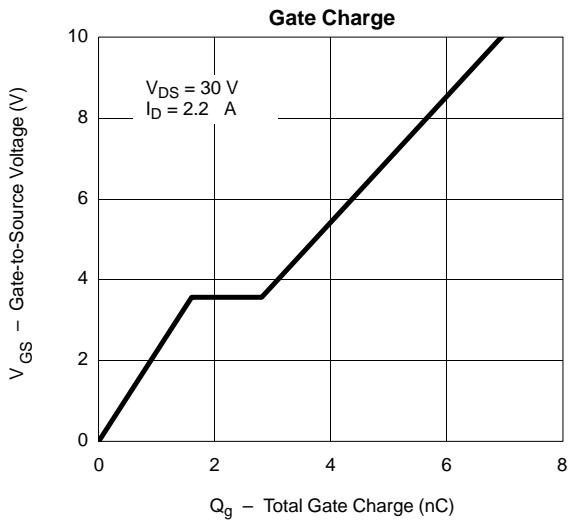
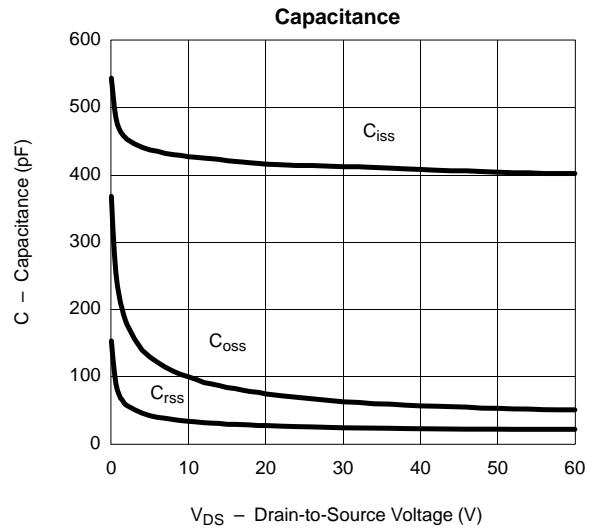
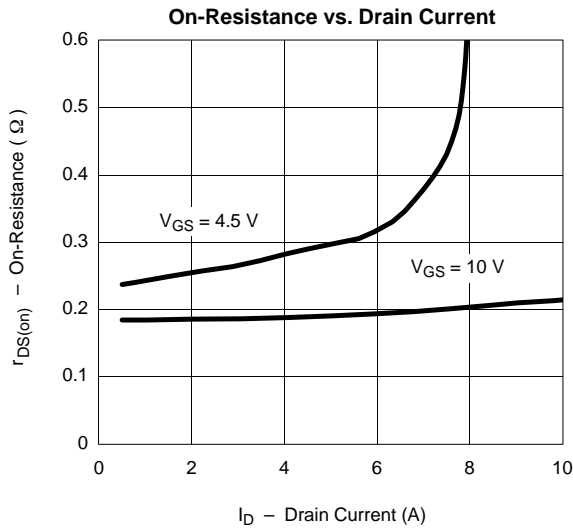
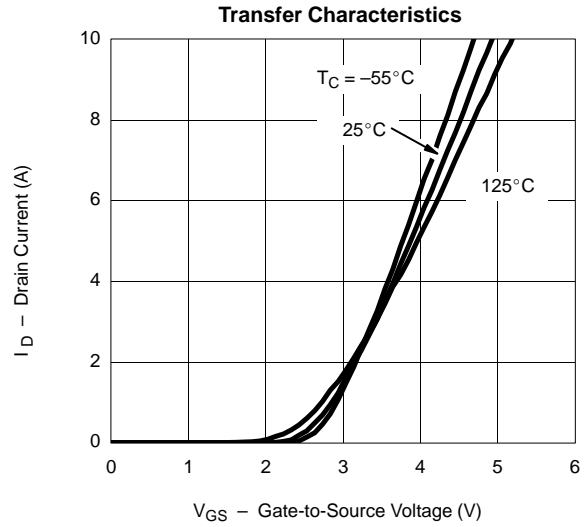
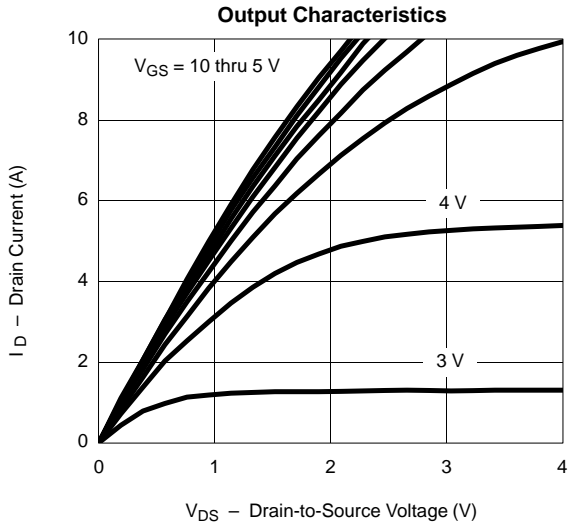
SPECIFICATIONS (T _J = 25 °C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{DS} = 0 V, I _D = -250 μA	-60			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250 μA	-1			
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±20 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -48 V, V _{GS} = 0 V			-1	μA
		V _{DS} = -48 V, V _{GS} = 0 V, T _J = 150 °C			-50	
On-State Drain Current ^a	I _{D(on)}	V _{DS} = -5 V, V _{GS} = -10 V	-10			A
Drain-Source On-State Resistance ^a	r _{DS(on)}	V _{GS} = -10 V, I _D = -2.2 A		0.190	0.220	Ω
		V _{GS} = -4.5 V, I _D = -1.9 A		0.265	0.310	
Forward Transconductance ^a	g _{fs}	V _{DS} = -4.5 V, I _D = -2.2 A		4		S
Dynamic^b						
Total Gate Charge	Q _g	V _{DS} = -30 V, V _{GS} = -10 V, I _D = -2.2 A		7	14	nC
Gate-Source Charge	Q _{gs}			1.6		
Gate-Drain Charge	Q _{gd}			1.2		
Turn-On Delay Time	t _{d(on)}	V _{DD} = -30 V, R _L = 30 Ω I _D ≅ -1 A, V _{GEN} = -10 V, R _G = 6 Ω		8	16	ns
Rise Time	t _r			12	24	
Turn-Off Delay Time	t _{d(off)}			23	45	
Fall Time	t _f			12	25	
Source-Drain Rating Characteristics^b						
Continuous Current	I _S				-1.7	A
Pulsed Current	I _{SM}				-10	
Diode Forward Voltage ^a	V _{SD}	I _S = -1.7 A, V _{GS} = 0 V		-0.8	-1.2	V
Source-Drain Reverse Recovery Time	t _{rr}	I _F = -1.7 A, di/dt = 100 A/μs		50	90	ns

Notes

- a. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.
- b. Guaranteed by design, not subject to production testing.



TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)





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