

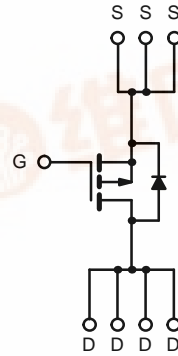
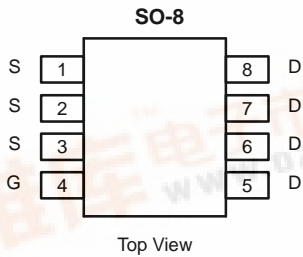


Si9407AEY
Vishay Siliconix

P-Channel 60-V (D-S), 175 °C MOSFET

PRODUCT SUMMARY		
V _{DS} (V)	r _{DS(on)} (Ω)	I _D (A)
-60	0.120 @ V _{GS} = -10 V	±3.5
	0.15 @ V _{GS} = -4.5 V	±3.1

175 °C Rated
Maximum Junction Temperature
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	I _D	T _A = 25 °C	±3.5
		T _A = 70 °C	±3.0
Pulsed Drain Current	I _{DM}	±30	A
Continuous Source Current (Diode Conduction) ^a	I _S	-2.5	
Maximum Power Dissipation ^a	P _D	T _A = 25 °C	3.0
		T _A = 70 °C	2.1
Operating Junction and Storage Temperature Range	T _J , T _{stg}	-55 to 175	°C

THERMAL RESISTANCE RATINGS			
Parameter	Symbol	Limit	Unit
Maximum Junction-to-Ambient ^a	R _{thJA}	50	°C/W

Notes:
a. Surface Mounted on FR4 Board, t ≤ 10 sec.



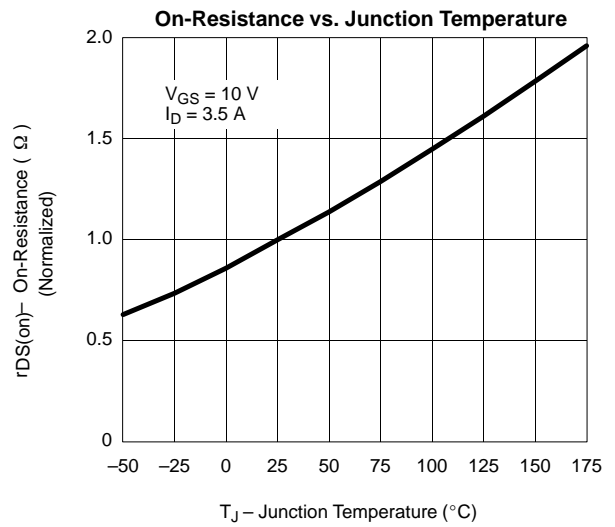
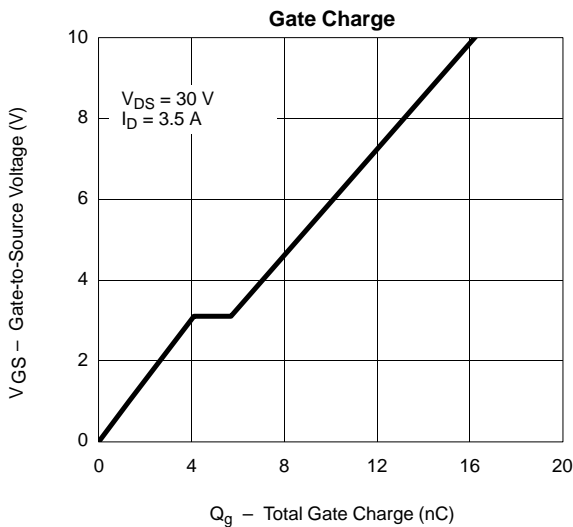
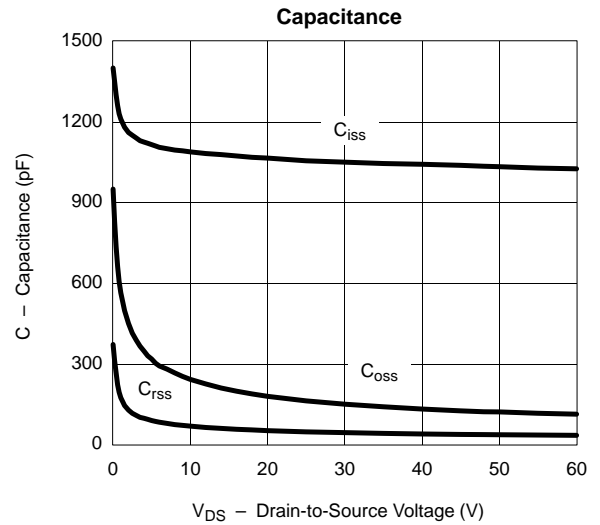
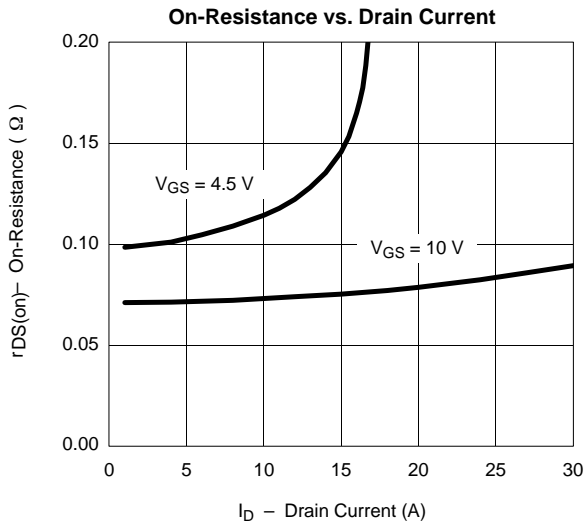
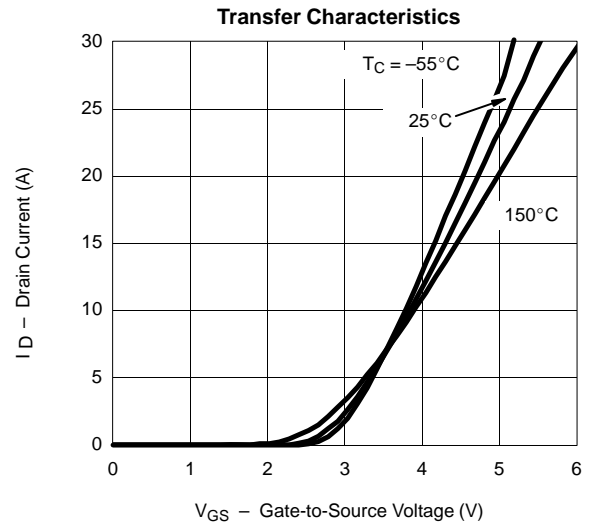
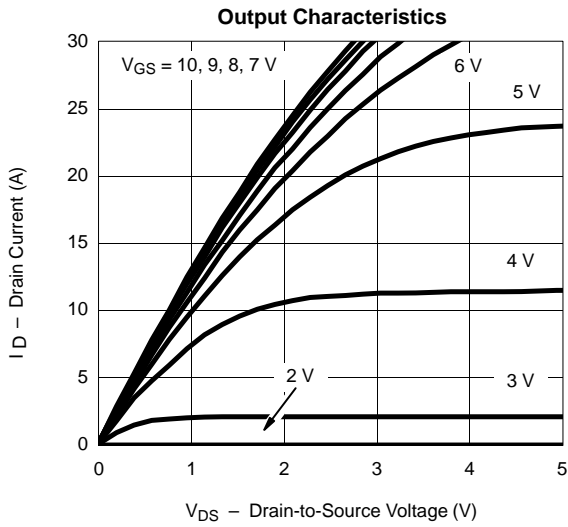
SPECIFICATIONS (T _J = 25 °C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Condition	Min	Typ ^a	Max	Unit
Static						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250 μA	-1			V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±20 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -60 V, V _{GS} = 0 V			-1	μA
		V _{DS} = -60 V, V _{GS} = 0 V, T _J = 55 °C			-10	
On-State Drain Current ^b	I _{D(on)}	V _{DS} ≤ -5 V, V _{GS} = -10 V	-20			A
Drain-Source On-State Resistance ^b	r _{DS(on)}	V _{GS} = -10 V, I _D = 3.5 A			0.120	Ω
		V _{GS} = -4.5 V, I _D = 3.1 A			0.150	
Forward Transconductance ^b	g _{fs}	V _{DS} = -15 V, I _D = -3.5 A		8		S
Diode Forward Voltage ^b	V _{SD}	I _S = -2.5 A, V _{GS} = 0 V			-1.2	V
Dynamic^a						
Total Gate Charge	Q _g	V _{DS} = -30 V, V _{GS} = -10 V, I _D = -3.5 A		18	30	nC
Gate-Source Charge	Q _{gs}			5		
Gate-Drain Charge	Q _{gd}			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	15	ns
Rise Time	t _r			10	20	
Turn-Off Delay Time	t _{d(off)}			35	50	
Fall Time	t _f			12	25	
Source-Drain Reverse Recovery Time	t _{rr}	I _F = -2.5 A, di/dt = 100 A/μs		70	100	

Notes

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



TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)





TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

