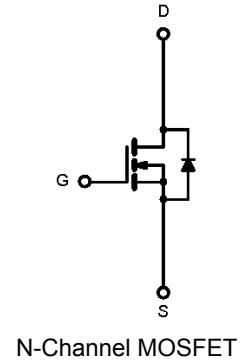
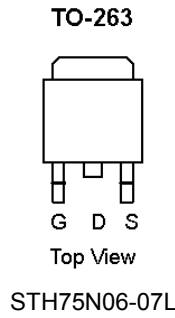
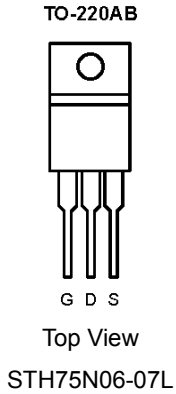


PRODUCT SUMMARY		
$V_{(BR)DSS}$ (V)	$r_{DS(on)}$ (Ω)	I_D (A)
60	0.0075@ $V_{GS}=10V$	75 ^a
	0.0085@ $V_{GS}=4.5V$	



ABSOLUTE MAXIMUM RATINGS (Tc=25 UNLESS OTHERWISE NOTED)				
Parameter		Symbol	Limit	Unit
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current (T _J =175)	Tc=25	I_D	75 ^a	A
	Tc=125		55	
Pulsed Drain Current		I_{DM}	240	
Avalanche Current		I_{AR}	60	
Repetitive Avalanche Energy ^b	L=0.1mH	E_{AR}	280	mJ
Power Dissipation	Tc=25 (TO-220AB and TO-263)	P_D	250 ^c	W
	T _A =25 (TO-263) ^d		3.7	
Operating Junction and Storage Temperature Range		T _J , T _{stg}	-55 to 175	

THERMAL RESISTANCE RATINGS				
Parameter		Symbol	Limit	Unit
Junction-to-Ambient	PCB Mount (TO-263) ^d	R_{thJA}	40	/W
	Free Air (TO-220AB)		62.5	
Junction-to-Case		R_{thJC}	0.6	

Notes

- a. Package limited.
- b. Duty cycle $\leq 1\%$.
- c. See SOA curve for voltage derating.
- d. When mounted on 1" square PCB (FR-4 material).



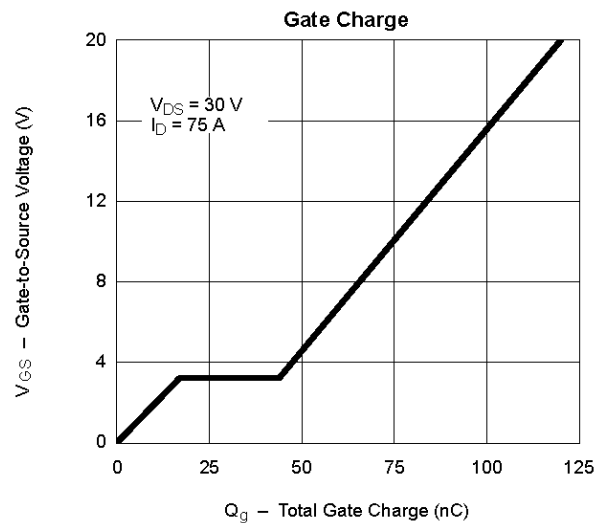
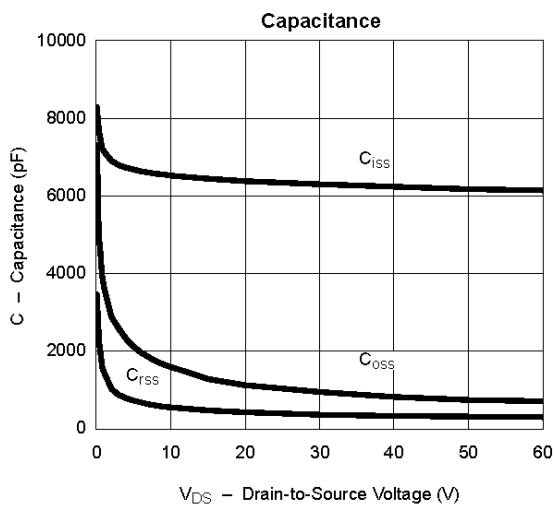
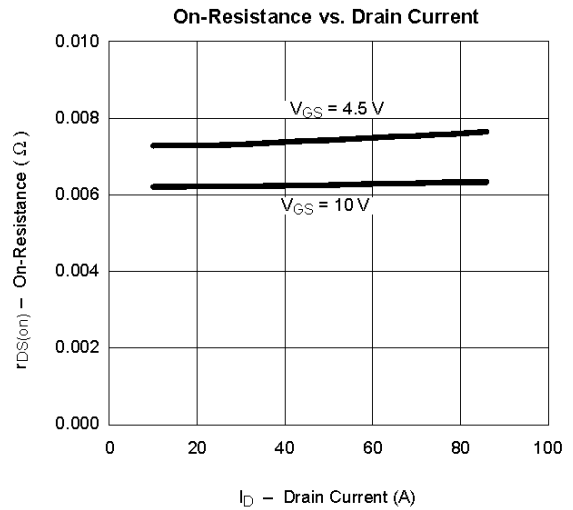
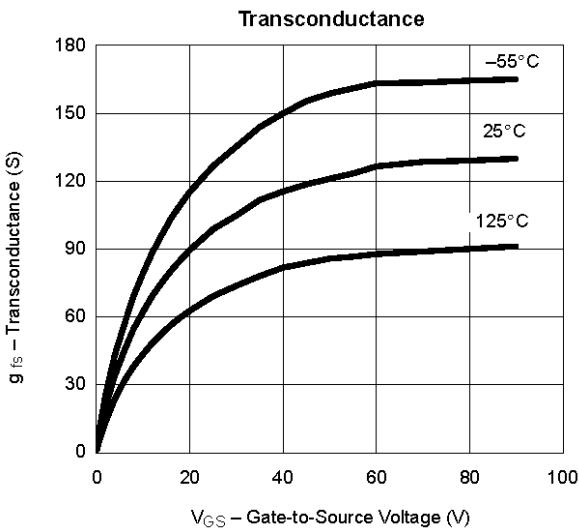
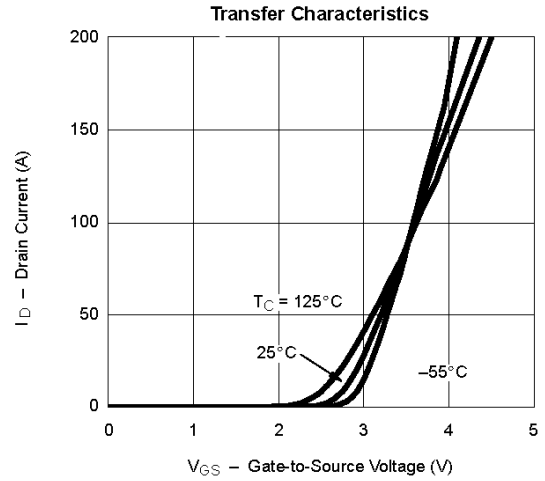
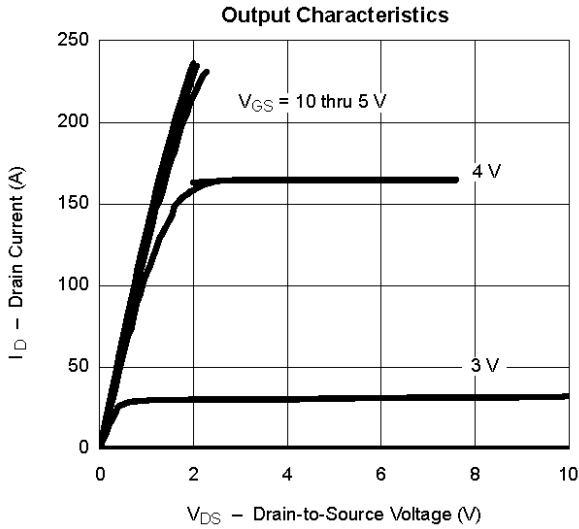
STH75N06-07L
N-Channel 60-V (D-S) 175 MOSFET

SPECIFICATIONS (T _J =25 UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	60			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	1.0		3.0	
Gate-Body Leakage	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =60V, V _{GS} =0V			1	μA
		V _{DS} =60V, V _{GS} =0V, T _J =125			50	
		V _{DS} =60V, V _{GS} =0V, T _J =175			250	
On-State Drain Current ^a	I _{D(on)}	V _{DS} =5V, V _{GS} =10V	120			A
Drain-Source On-State Resistance ^a	r _{DS(on)}	V _{GS} =10V, I _D =30A		0.0061	0.0075	Ω
		V _{GS} =4.5V, I _D =20A		0.0071	0.0085	
		V _{GS} =10V, I _D =30A, T _J =125			0.012	
		V _{GS} =10V, I _D =30A, T _J =175			0.015	
Forward Transconductance ^a	g _{fs}	V _{DS} =15V, I _D =30A	30			S
Dynamic ^b						
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =25, f=1MHz		6300		pF
Output Capacitance	C _{oss}			920		
Reverse Transfer Capacitance	C _{rss}			350		
Total Gate Charge ^c	Q _g	V _{DS} =30V, V _{GS} =10V, I _D =75A		75	120	nC
Gate-Source Charge ^c	Q _{gs}			18		
Gate-Drain Charge ^c	Q _{gd}			27		
Turn-On Delay Time ^c	t _{d(on)}	V _{DD} =30V, R _L =0.47 Ω I _D ≈ 75A, V _{GEN} =10V, R _G =2.5 Ω		14	40	ns
Rise Time ^c	t _r			15	40	
Turn-Off Delay Time ^c	t _{d(off)}			150	300	
Fall Time ^c	t _f			50	100	
Source-Drain Diode Ratings and Characteristics (T_C=25)^b						
Continuous Current	I _S				75	A
Pulsed Current	I _{SM}				240	
Forward Voltage	V _{SD}	I _F =75A, V _{GS} =0V		1.0	1.3	V
Reverse Recovery Time	t _{rr}	I _F =75A, di/dt = 100A/μs		67	120	ns
Peak Reverse Recovery Current	I _{RM(REC)}			6	8	A
Reverse Recovery Charge	Q _{rr}			0.2	0.48	μC

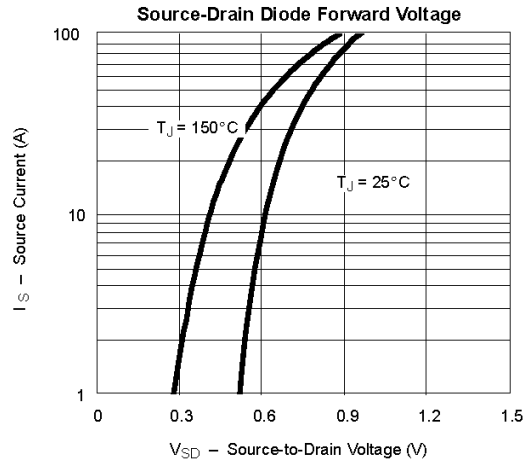
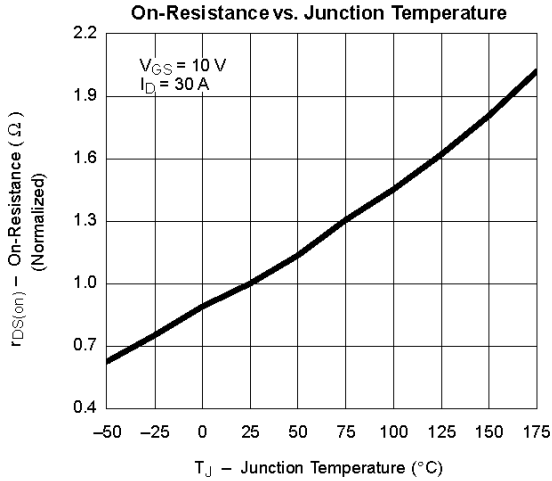
Notes

- a. Pulse test: pulse width ≤ 300 μsec, duty cycle ≤ 2%.
- b. Guaranteed by design, not subject to production testing.
- c. Independent of operating temperature.

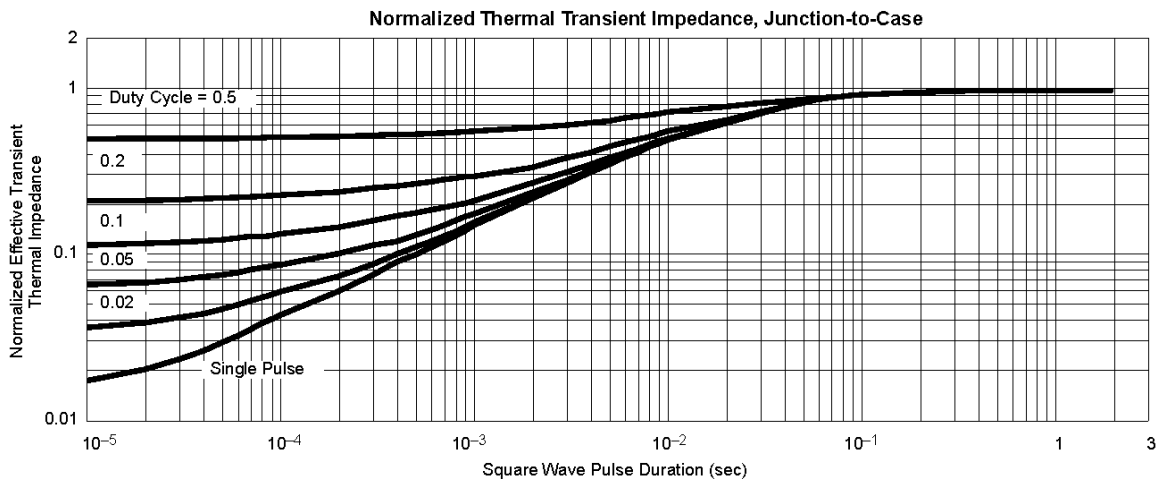
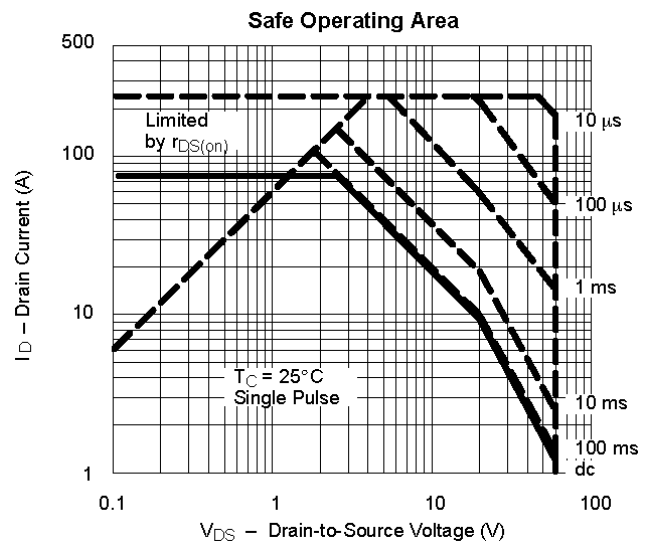
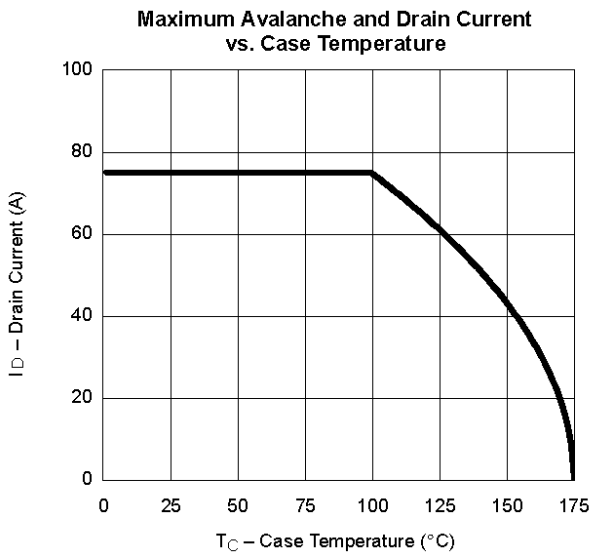
TYPICAL CHARACTERISTICS (25 UNLESS NOTED)



TYPICAL CHARACTERISTICS (25 UNLESS NOTED)



THERMAL RATINGS





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N-Channel 60-V (D-S) 175 MOSFET
