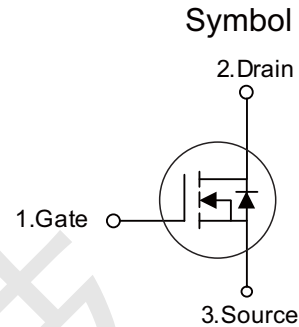




MOT5N50BD N-CHANNEL MOSFET

■ MOT5N50BD PRODUCT CHARACTERISTICS

VDSS	500V
$R_{DS(on)typ}(V_{GS}=10V)$	2.4Ω
Qg@type	18nC
ID	5A

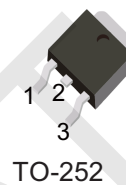


■ MOT5N50BD APPLICATIONS

- High frequency switching mode power supply
- Electronic ballast
- LED power supply

■ MOT5N50BD FEATURES

- * Fast Switching Capability
- * Avalanche Energy Specified
- * Improved dv/dt Capability, High Ruggedness



■ MOT5N50BD ORDER INFORMATION

Order codes		Package	Packing
Halogen-Free	Halogen		
N/A	MOT5N50BD	TO-252	2500 pieces /Reel

■ MOT5N50BD ABSOLUTE MAXIMUM RATINGS (T_C = 25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V _{DSS}	500	V
Gate-Source Voltage	V _{GSS}	±30	V
Drain Current	Continuous	I _D	5
	Pulse	I _{DM}	15
Avalanche Energy	Single Pulsed	E _{AS}	60
Power Dissipation	P _D	32.9	W
Junction Temperature	T _J	+150	°C
Storage Temperature	T _{STG}	-55~+150	°C

■ MOT5N50BD THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ _{JA}	62.5	°C/W
Junction to Case	θ _{JC}	6.25	°C/W



MOT5N50BD N-CHANNEL MOSFET

■ MOT5N50BD ELECTRICAL CHARACTERISTICS (T_c = 25°C, unless otherwise specified)

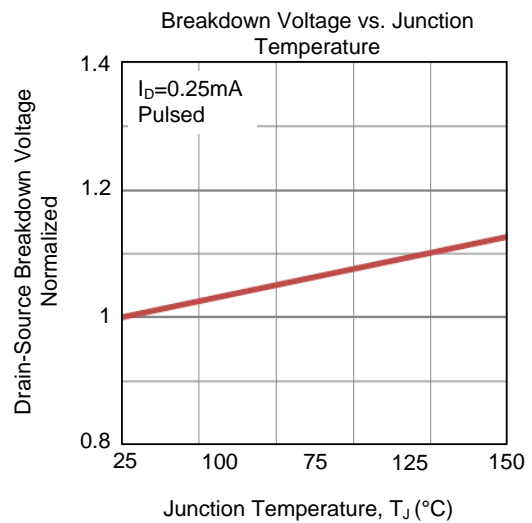
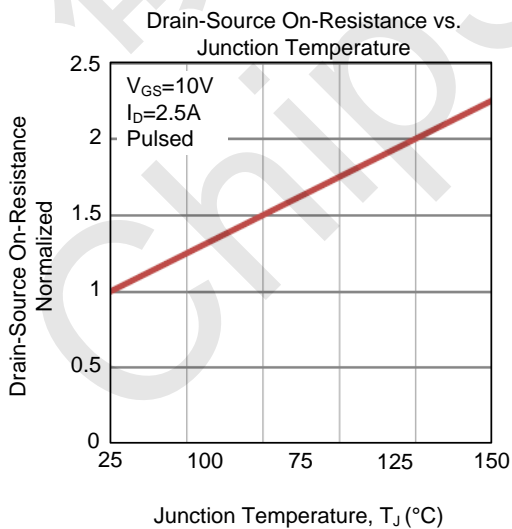
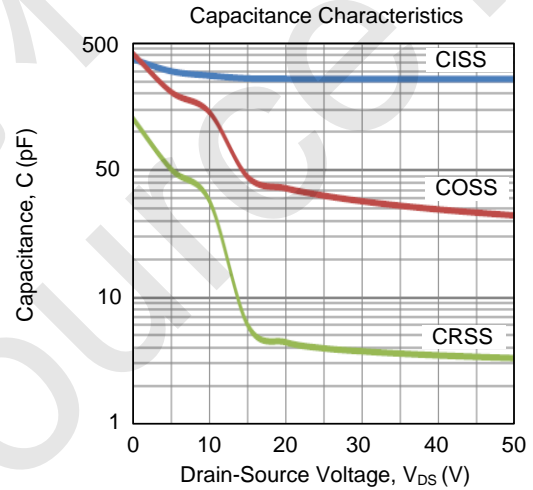
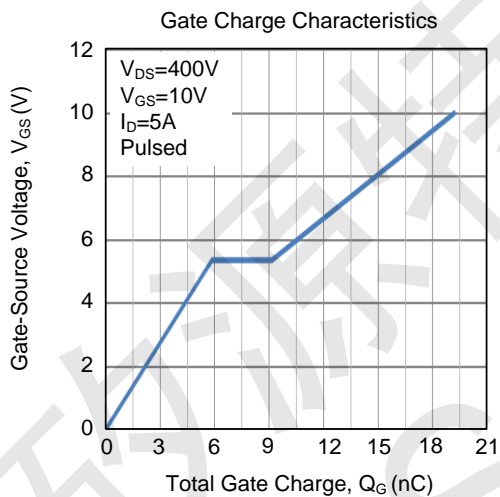
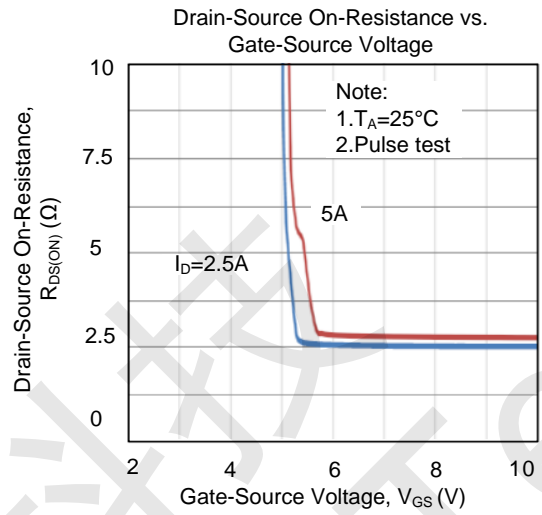
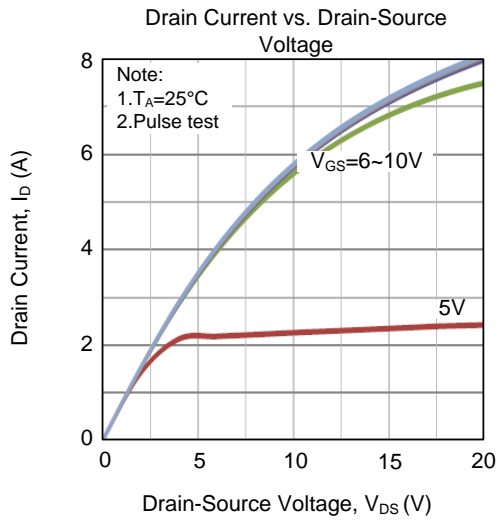
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	I _D =250μA, V _{GS} =0V	500	-	-	V
Breakdown Voltage Temperature Coefficient	ΔBV _{DSS} /ΔT _J	Reference to 25°C, I _D =250μA	-	0.5	-	V/°C
Drain-Source Leakage Current	I _{DSS}	V _{DS} =500V, V _{GS} =0V	-	-	1	μA
		V _{DS} =400V, T _C =125°C	-	-	10	
Gate- Source Leakage Current	Forward	V _{GS} =30V, V _{DS} =0V	-	-	100	nA
	Reverse	V _{GS} =-30V, V _{DS} =0V	-	-	-100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _D =250μA	2.0	-	4.0	V
Static Drain-Source On-State Resistance	R _{DS(ON)}	V _{GS} =10V, I _D =2.5A	-	2.4	3.0	Ω
DYNAMIC CHARACTERISTICS						
Input Capacitance	C _{ISS}	V _{GS} =0V, V _{DS} =25V, f=1.0MHz	-	320	-	pF
Output Capacitance	C _{OSS}		-	40	-	pF
Reverse Transfer Capacitance	C _{RSS}		-	8	-	pF
SWITCHING CHARACTERISTICS						
Total Gate Charge	Q _G	V _{GS} =10V, V _{DS} =400V, I _D =5A	-	18	-	nC
Gate to Source Charge	Q _{GS}		-	2.2	-	nC
Gate to Drain Charge	Q _{GD}		-	9.7	-	nC
Turn-ON Delay Time	t _{D(ON)}	V _{DD} =250V, I _D =5A, R _G =25Ω	-	12	-	ns
Rise Time	t _R		-	46	-	ns
Turn-OFF Delay Time	t _{D(OFF)}		-	50	-	ns
Fall-Time	t _F		-	48	-	ns
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS						
Maximum Continuous Drain-Source Diode Forward Current	I _S		-	-	5	A
Maximum Pulsed Drain-Source Diode Forward Current	I _{SM}		-	-	15	A
Drain-Source Diode Forward Voltage	V _{SD}	I _S =5A, V _{GS} =0V	-	-	1.4	V
Reverse Recovery Time	t _{rr}	I _S =5A, V _{GS} =0V,	-	83	-	ns
Reverse Recovery Charge	Q _{RR}	di _F /dt=100A/μs (Note 1)	-	0.25	-	uC

Note: 1. Pulse Test: Pulse width 300μs, Duty cycle 2%



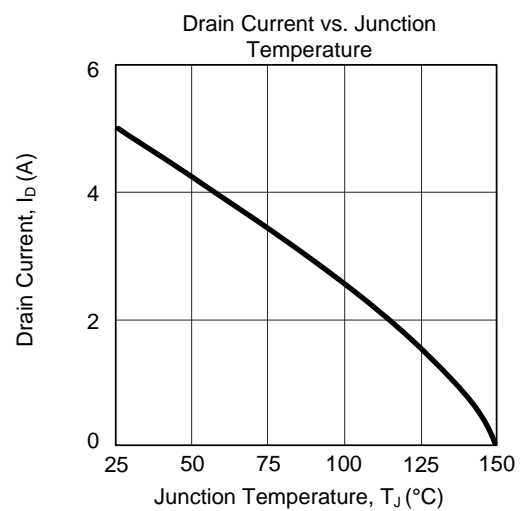
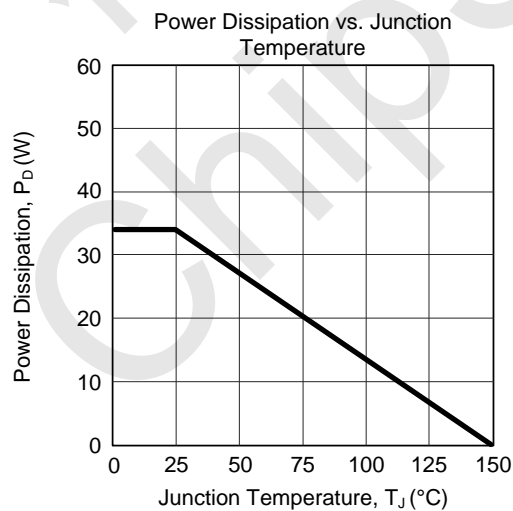
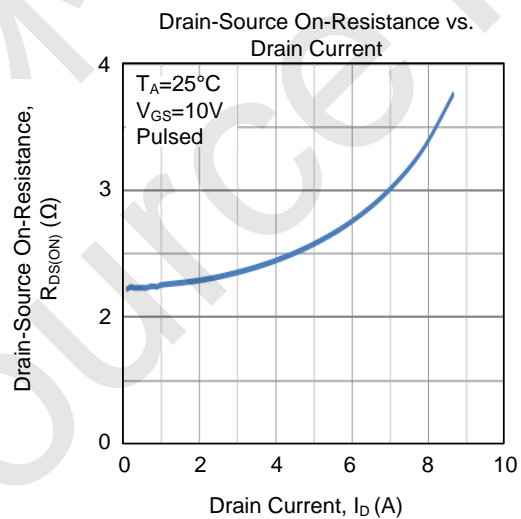
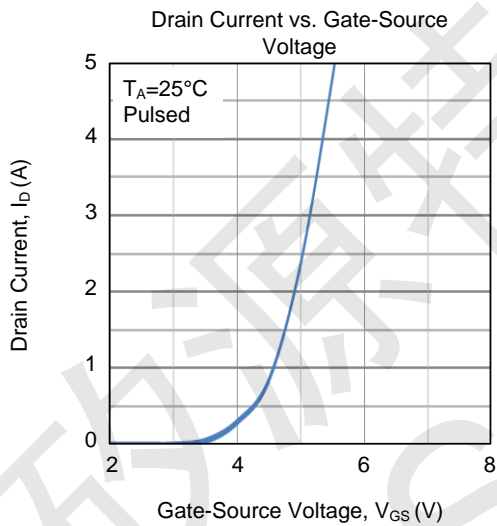
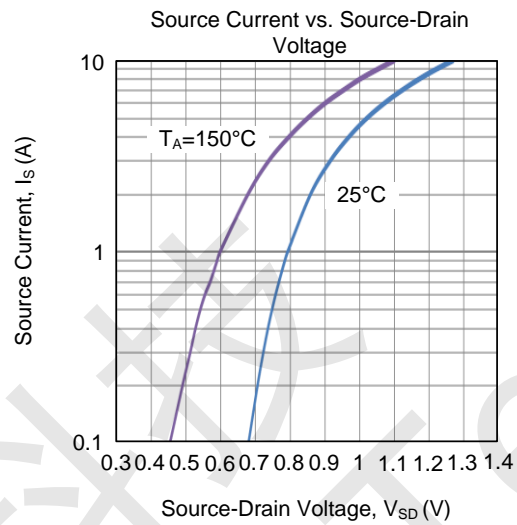
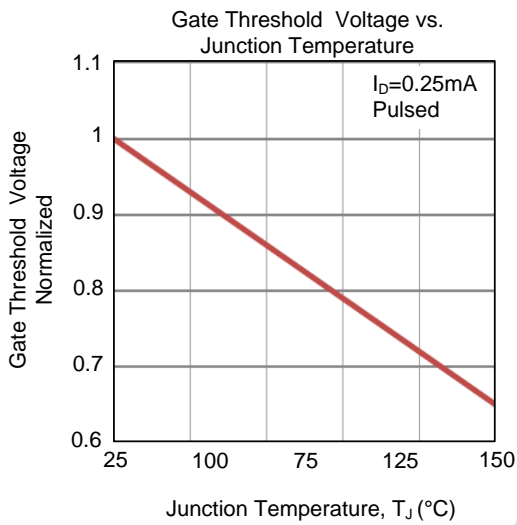
MOT5N50BD N-CHANNEL MOSFET

■ MOT5N50BD TYPICAL CHARACTERISTICS



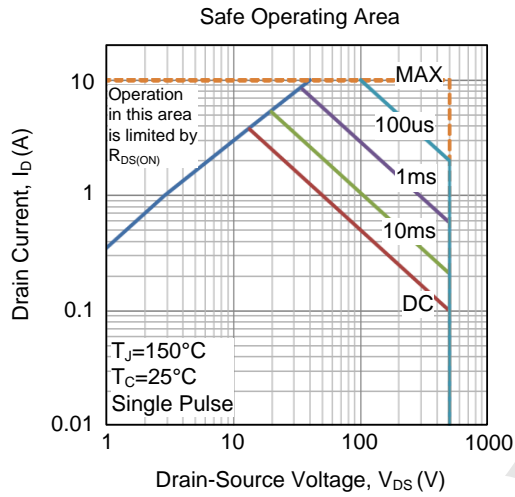


■ MOT5N50BD TYPICAL CHARACTERISTICS(Cont.)





■ MOT5N50BD TYPICAL CHARACTERISTICS(Cont.)





■ MOT5N50BD TO-252 PACKAGE OUTLINE DIMENSIONS

