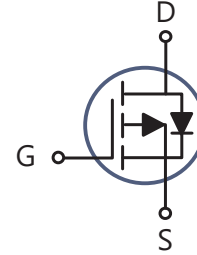


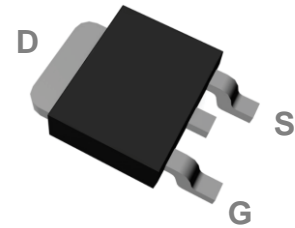
PRODUCT SUMMARY	
V _{DSS}	-60V
I _D	- 6A
R _{DS(ON)} (mΩ) Typ	180 @ V _{GS} =-10V
R _{DS(ON)} (mΩ) Typ	228 @ V _{GS} =-4.5V



Features

- High - speed switching
- Excellent gate charge x R_{ds(ON)} product (FOM)
- Super high density cell design for extremely low R_{DS(ON)}
- Exceptional on-resistance and maximum DC current capability
- RoHS and Halogen - free compliant

TO252



ABSOLUTE MAXIMUM RATINGS (T_C=25°C unless otherwise noted)

Parameter	Symbol	Limit	Units	
Drain-Source Voltage	V _{DS}	-60	V	
Gate-Source Voltage	V _{GS}	±20	V	
Drain Current-Continuous (Note 2)	I _D	T _C =25°C	-6	A
		T _C =70°C	-4.8	A
-Pulsed (Note 1、Note 2)	I _{DM}	-24	A	
Single Pulse Avalanche Energy (Note 3)	E _{AS}	15	mJ	
Maximum Power Dissipation	P _D	T _C =25°C	20	W
		T _C =70°C	13	W
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-55 to 150	°C	

THERMAL CHARACTERISTICS

Thermal Resistance, Junction-to-Case	R _{θJC}	6	°C/W
Thermal Resistance, Junction-to-Ambient	R _{θJA}	62	°C/W



FTK06P06D

ELECTRICAL CHARACTERISTICS (T_C=25°C unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =-250uA	-60			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-48V, V _{GS} =0V			-1	uA
Gate-Body Leakage Current	I _{GSS}	V _{GS} = ±20V, V _{DS} =0V			±100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250uA	-1.0	-1.6	-2.5	V
Drain-Source On-State Resistance	R _{DS(ON)}	V _{GS} =-10V, I _D =-3A		180	216	m ohm
		V _{GS} =-4.5V, I _D =-2A		228	285	m ohm
Forward Transconductance	g _{FS}	V _{DS} =10V, I _D =-3A		1.8		S
DYNAMIC CHARACTERISTICS (Note 4)						
Input Capacitance	C _{ISS}	V _{DS} =-30V, V _{GS} =0 V f=1.0MHz		612		pF
Output Capacitance	C _{OSS}			72		pF
Reverse Transfer Capacitance	C _{RSS}			33		pF
Total Gate Charge	Q _g	V _{DS} =-30V, I _D =-3A, V _{GS} =-10V		7.8		nC
Gate-Source Charge	Q _{gs}	V _{DS} =-30V, I _D =-3A, V _{GS} =-10V		1.6		nC
Gate-Drain Charge	Q _{gd}			2.3		nC
SWITCHING CHARACTERISTICS (Note 4)						
Turn-On Delay Time	t _{D(ON)}	V _{DD} =-30V I _D =-3A V _{GS} =-10V R _{GEN} = 6 ohm		7		ns
Rise Time	t _r			19		ns
Turn-Off Delay Time	t _{D(OFF)}			29		ns
Fall Time	t _f			6		ns
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =-2A		-0.78	-1.2	V

Notes

- 1.Pulse Test Width ≤ 300us,Duty Cycle≤ 2%.
- 2.Drain current limited by maximum junction temperature.
- 3.Starting T_j=25°C ,L=0.5mH,V_{DD}=-30V.(See Figure11)
- 4.Guaranteed by design,not subject to production testing.

Figure 1. Output Characteristics

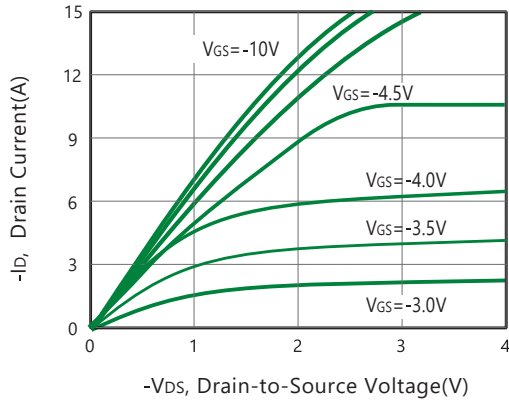


Figure 2. Body Diode Forward Voltage Variation with Source Current

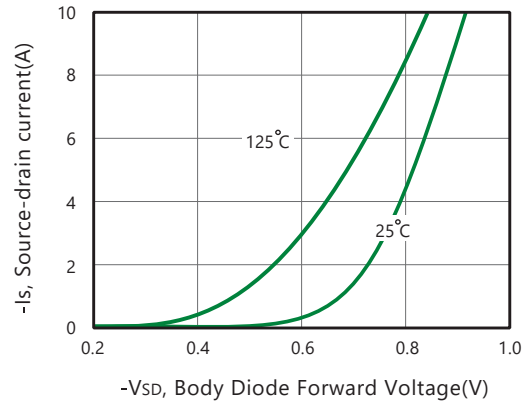


Figure 3. On-Resistance vs. Gate-Source Voltage

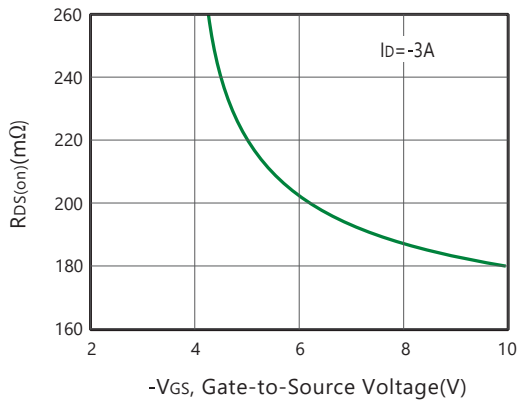


Figure 4. On-Resistance Variation with Drain Current and Temperature

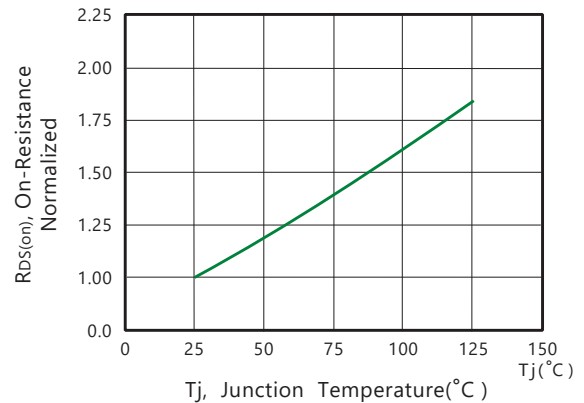


Figure 5. Gate Threshold Variation with Temperature

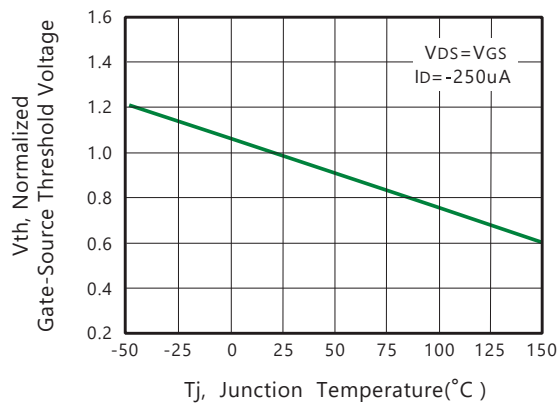


Figure 6. Gate Charge

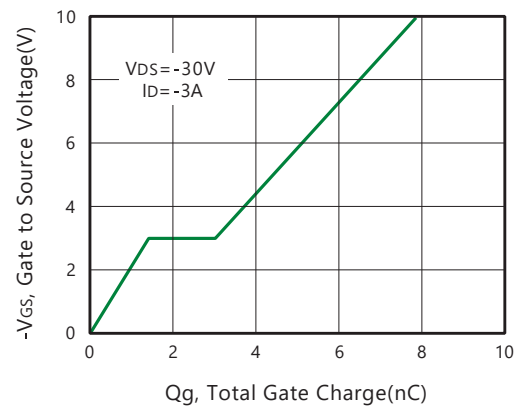


Figure 7. Capacitance

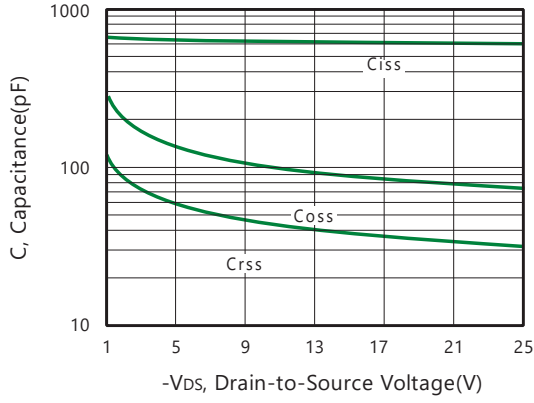


Figure 8. Maximum Safe Operating Area

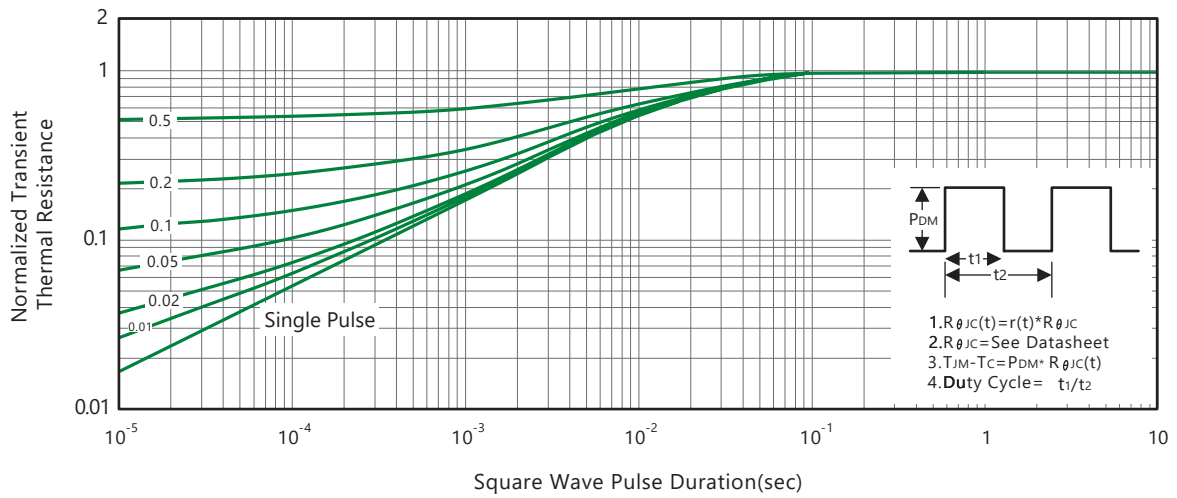
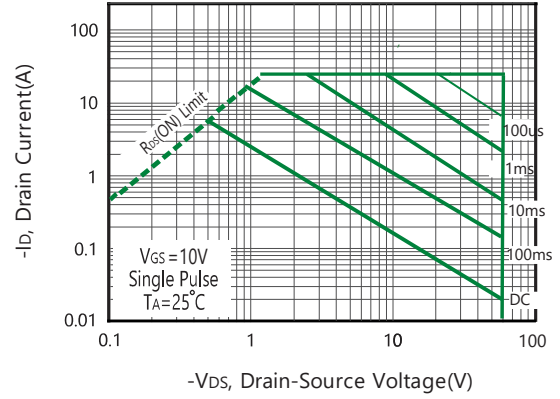


Figure 9. Normalized Thermal Transient Impedance Curve

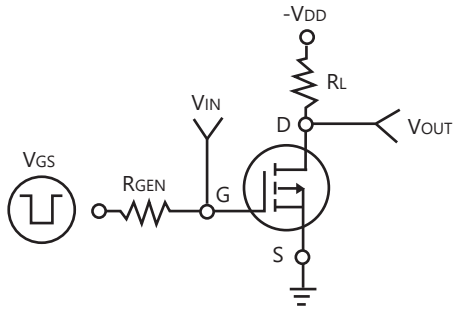


Figure 10a. Switching Test Circuit

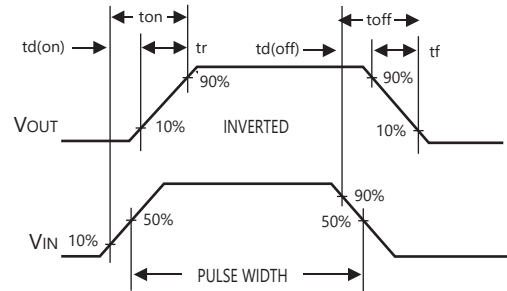
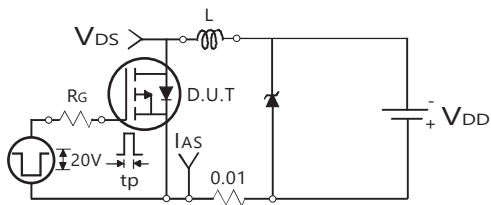
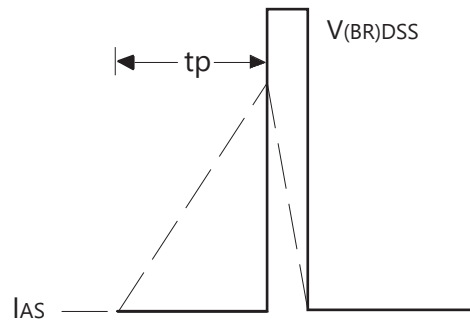


Figure 10b. Switching Waveforms



Unclamped Inductive Test Circuit

Figure 11a.

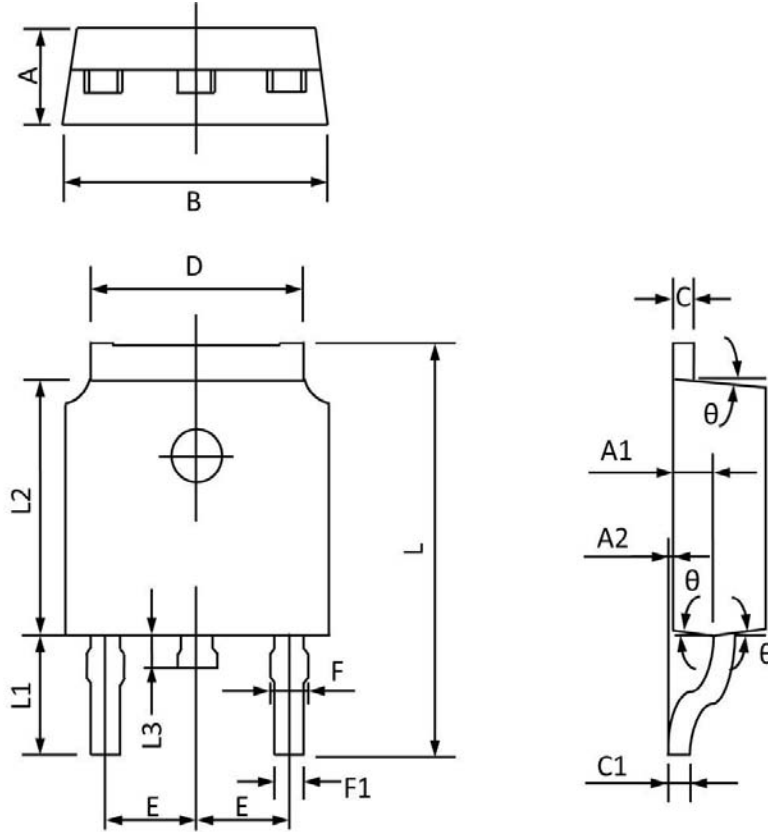


Unclamped Inductive Waveforms

Figure 11b.

PACKAGE OUTLINE DIMENSIONS

TO252



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MAX	MIN	MAX	MIN
A	2.450	2.150	0.096	0.085
A1	1.200	0.910	0.047	0.036
A2	0.150	0.000	0.006	0.000
B	6.800	6.300	0.268	0.248
C	0.580	0.350	0.023	0.014
C1	0.550	0.380	0.022	0.015
D	5.500	5.100	0.217	0.201
E	2.390	2.000	0.094	0.079
F	0.940	0.600	0.037	0.024
F1	0.860	0.500	0.034	0.020
L	10.400	9.400	0.409	0.370
L1	3.000	2.400	0.118	0.094
L2	6.200	5.300	0.244	0.209
L3	1.200	0.600	0.047	0.024
θ	9°	3°	9°	3°