

**FTK15N10D**      N-Channel Power MOSFET

**GENERAL DESCRIPTION**

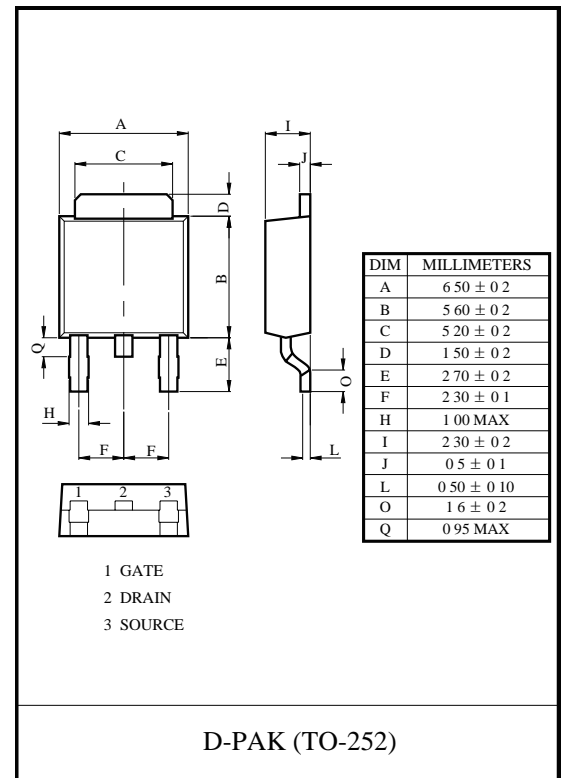
The FTK15N10D provide excellent  $R_{DS(ON)}$ , low gate charge and operation with low gate voltages. This device is suitable for use as a load switch or in PWM applications.

**FEATURE**

- Excellent package for good heat dissipation
- Ultra low gate charge
- Low reverse transfer capacitance
- Fast switching capability
- Avalanche energy specified

**APPLICATION**

- Power switching application



**Maximum ratings ( $T_a=25^\circ\text{C}$  unless otherwise noted)**

Symbol	Rating	Unit
$V_{DSS}$	100	V
$I_D(T_C=25^\circ\text{C})$	15	A
$I_D(T_C=100^\circ\text{C})$	10	A
$I_{DM}$	60	A
$V_{GS}$	±20	V
$E_{AS}$	142	mJ
$I_{AS}$	3.6	A
$P_D(T_C=25^\circ\text{C})$	39	W
$T_j$ $T_{stg}$	-55~175	°C



# FTK15N10D

## Electrical characteristics (T<sub>a</sub>=25°C unless otherwise noted)

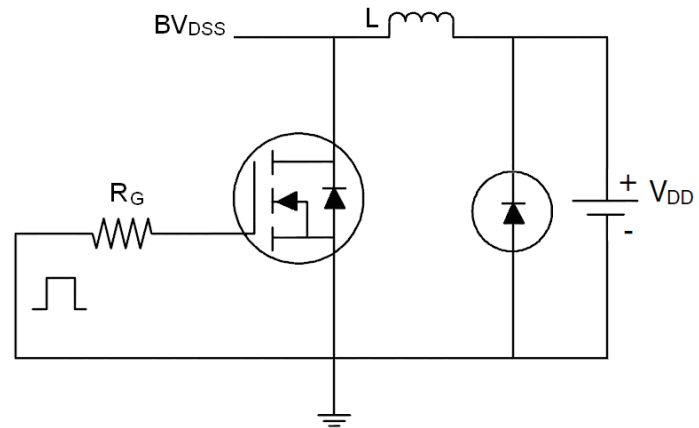
Symbol	Test Conditions	Min	Typ	Max	Unit
BV <sub>DSS</sub>	V <sub>GS</sub> =0V I <sub>D</sub> =250 μ A	100			V
I <sub>DSS</sub>	V <sub>DS</sub> =30V V <sub>GS</sub> =0V			1.0	μ A
	T <sub>J</sub> =125°C			50	
I <sub>GSS</sub>	V <sub>GS</sub> =±20V V <sub>DS</sub> =0V			±100	μ A
V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> I <sub>D</sub> =250 μ A	2		4	V
	T <sub>J</sub> =125°C		2.46		
Qg	V <sub>DS</sub> =80V I <sub>D</sub> =9.2A V <sub>GS</sub> =10V		20		nC
R <sub>DS(on)</sub>	V <sub>GS</sub> =10V I <sub>D</sub> =2A		60	90	m Ω
	T <sub>J</sub> =125°C		125		
V <sub>SD</sub>	V <sub>GS</sub> =0V I <sub>S</sub> =50A			1.5	V
C <sub>iss</sub>	V <sub>DS</sub> =25V V <sub>GS</sub> =0V f=1.0MHz		739		pF
C <sub>oss</sub>			58		
C <sub>rss</sub>			40		
t <sub>d(on)</sub>	V <sub>DD</sub> =50V I <sub>D</sub> =9.2A R <sub>L</sub> =5.4 Ω V <sub>GS</sub> =10V R <sub>GEN</sub> =18 Ω		11		ns
t <sub>r</sub>			31		
t <sub>d(off)</sub>			39		
t <sub>f</sub>			28		

### Notes :

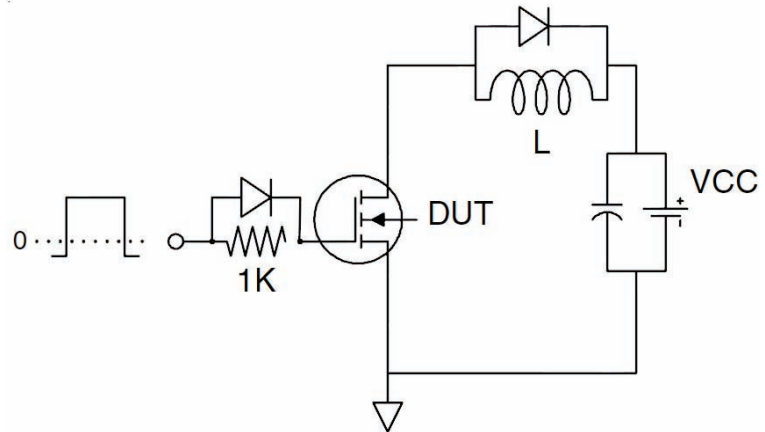
1. I<sub>L</sub>=10A, V<sub>DD</sub>=50V, R<sub>G</sub>=25Ω, Starting T<sub>J</sub>=25°C.
2. Pulse Test : Pulse width ≤ 300μs, duty cycle ≤ 2%.
3. Guaranteed by design not subject to production

## Test Circuit

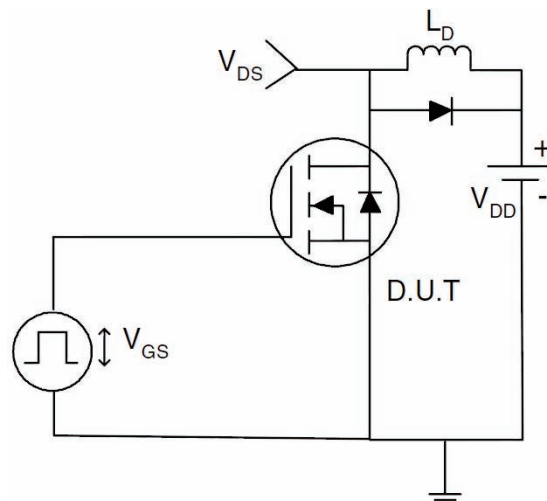
### 1) $E_{AS}$ test circuit



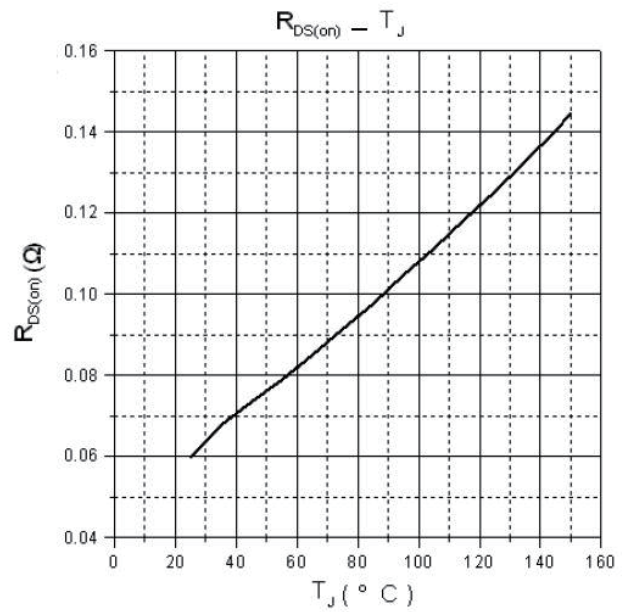
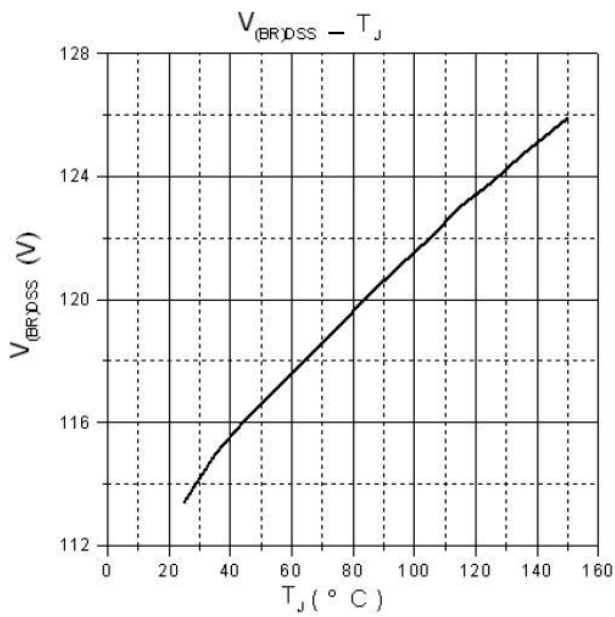
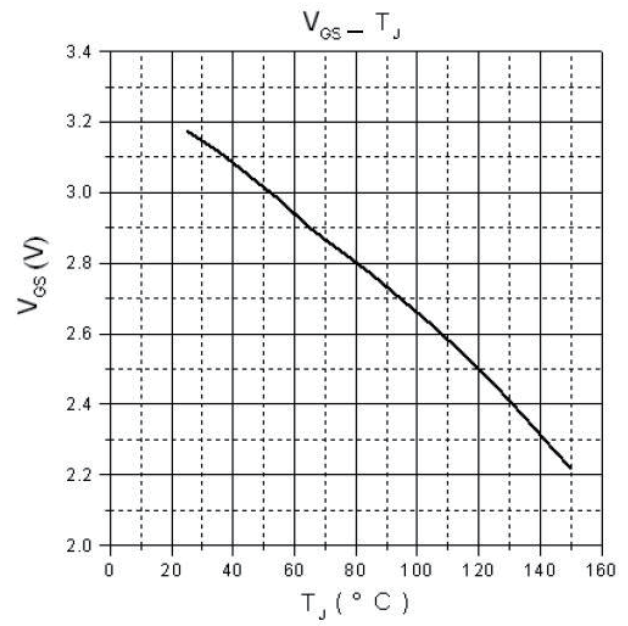
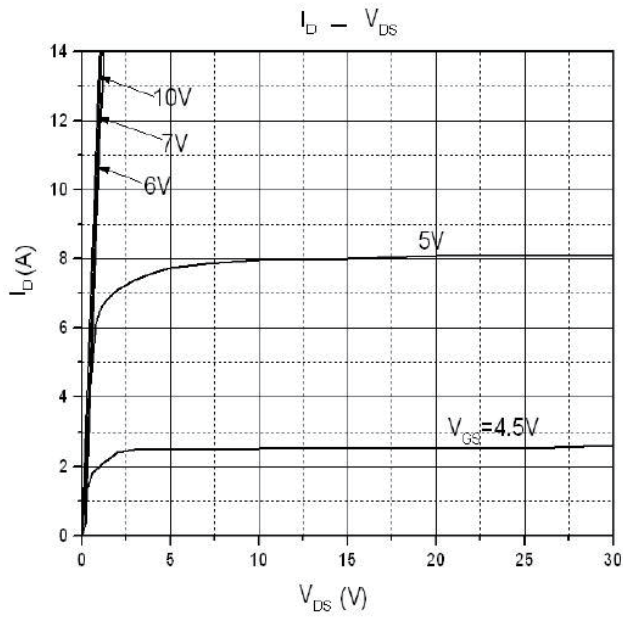
### 2) Gate charge test circuit



### 3) Switch Time Test Circuit



## Typical Electrical and Thermal Characteristics (curves)





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