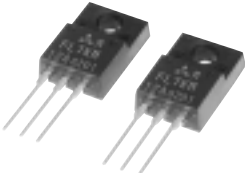


FL7KM-12A

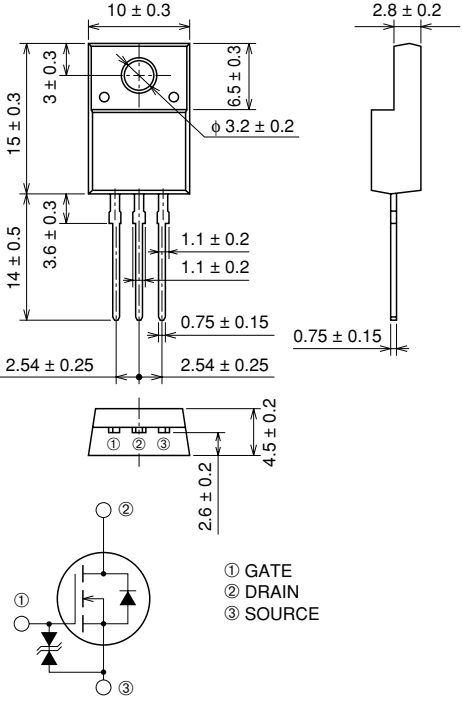
HIGH-SPEED SWITCHING USE

FL7KM-12A



- 10V DRIVE
- V_{DSS} 600V
- r_{DS (ON)} (MAX) 1.3Ω
- I_D 7A

OUTLINE DRAWING Dimensions in mm



TO-220FN

APPLICATION

SMPS, Inverter fluorescent light sets, etc.

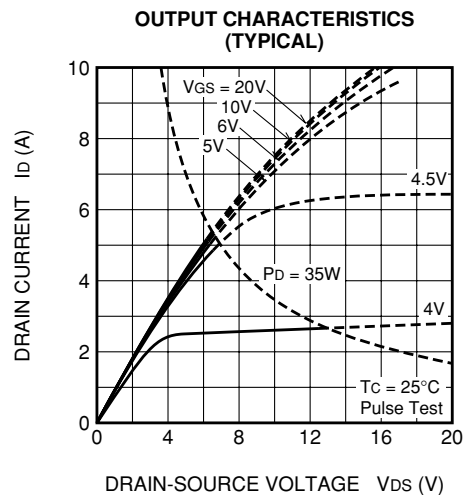
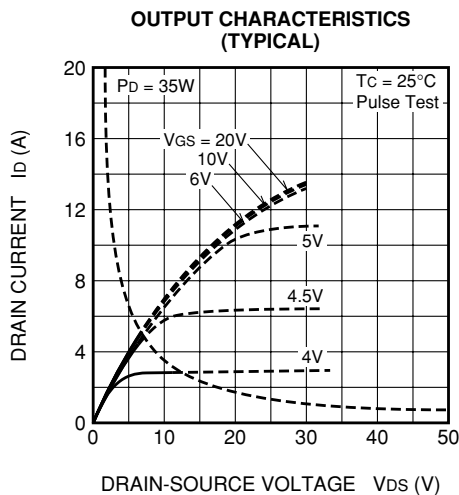
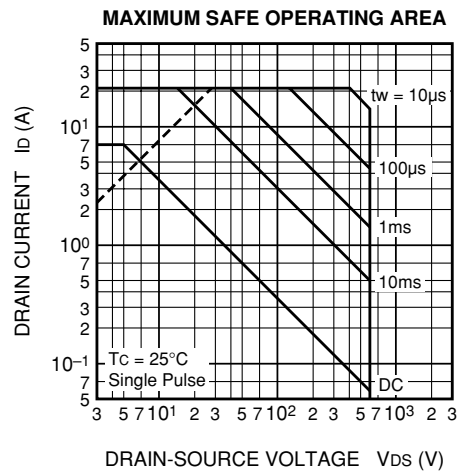
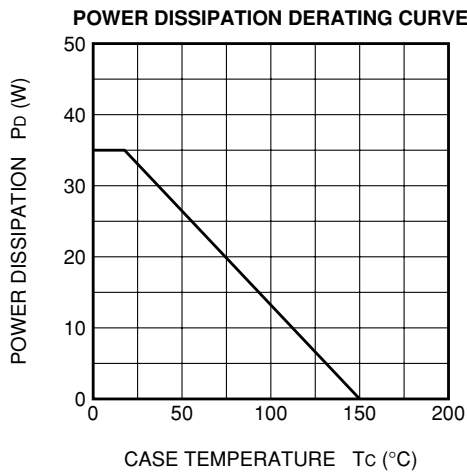
MAXIMUM RATINGS (T_c = 25°C)

Symbol	Parameter	Conditions	Ratings	Unit
V _{DSS}	Drain-source voltage	V _{GS} = 0V	600	V
V _{GSS}	Gate-source voltage	V _{DS} = 0V	±30	V
I _D	Drain current		7	A
I _{DM}	Drain current (Pulsed)		21	A
I _{DA}	Avalanche drain current (Pulsed)	L = 200μH	7	A
P _D	Maximum power dissipation		35	W
T _{ch}	Channel temperature		-55 ~ +150	°C
T _{stg}	Storage temperature		-55 ~ +150	°C
V _{iso}	Isolation voltage	AC for 1 minute, Terminal to case	2000	V
—	Weight	Typical value	2.0	g

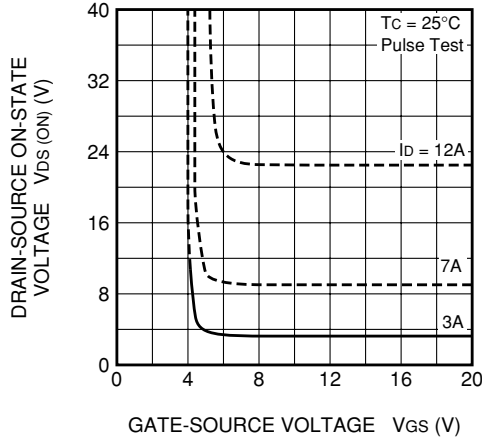
ELECTRICAL CHARACTERISTICS ($T_{ch} = 25^{\circ}\text{C}$)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
$V_{(BR)DSS}$	Drain-source breakdown voltage	$I_D = 1\text{mA}, V_{GS} = 0\text{V}$	600	—	—	V
$V_{(BR)GSS}$	Gate-source breakdown voltage	$I_{GS} = \pm 100\mu\text{A}, V_{DS} = 0\text{V}$	± 30	—	—	V
I_{GSS}	Gate-source leakage current	$V_{GS} = \pm 25\text{V}, V_{DS} = 0\text{V}$	—	—	± 10	μA
I_{DSS}	Drain-source leakage current	$V_{DS} = 600\text{V}, V_{GS} = 0\text{V}$	—	—	1	mA
$V_{GS(th)}$	Gate-source threshold voltage	$I_D = 1\text{mA}, V_{DS} = 10\text{V}$	2.0	3.0	4.0	V
$r_{DS(ON)}$	Drain-source on-state resistance	$I_D = 3\text{A}, V_{GS} = 10\text{V}$	—	1.1	1.3	Ω
$V_{DS(ON)}$	Drain-source on-state voltage	$I_D = 3\text{A}, V_{GS} = 10\text{V}$	—	3.3	3.9	V
$ y_{fs} $	Forward transfer admittance	$I_D = 3\text{A}, V_{DS} = 10\text{V}$	—	5.0	—	S
C_{iss}	Input capacitance	$V_{DS} = 25\text{V}, V_{GS} = 0\text{V}, f = 1\text{MHz}$	—	950	—	pF
C_{oss}	Output capacitance		—	115	—	pF
C_{rss}	Reverse transfer capacitance		—	30	—	pF
$t_d(on)$	Turn-on delay time	$V_{DD} = 200\text{V}, I_D = 3\text{A}, V_{GS} = 10\text{V}, R_{GEN} = R_{GS} = 50\Omega$	—	20	—	ns
t_r	Rise time		—	30	—	ns
$t_d(off)$	Turn-off delay time		—	180	—	ns
t_f	Fall time		—	65	—	ns
V_{SD}	Source-drain voltage	$I_S = 3\text{A}, V_{GS} = 0\text{V}$	—	1.5	2.0	V
$R_{th(ch-c)}$	Thermal resistance	Channel to case	—	—	3.57	$^{\circ}\text{C/W}$

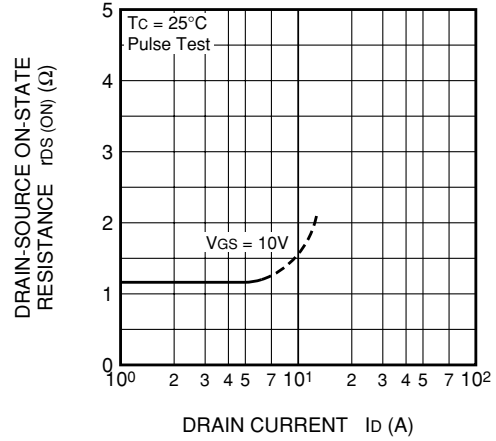
PERFORMANCE CURVES



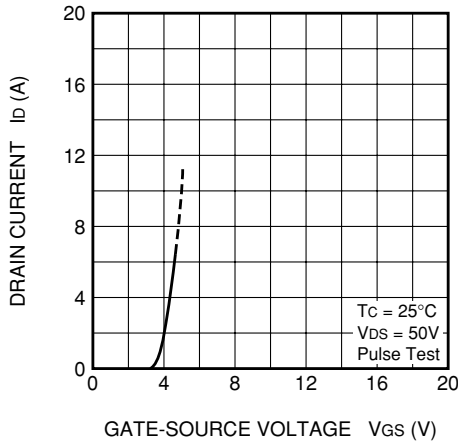
ON-STATE VOLTAGE VS. GATE-SOURCE VOLTAGE (TYPICAL)



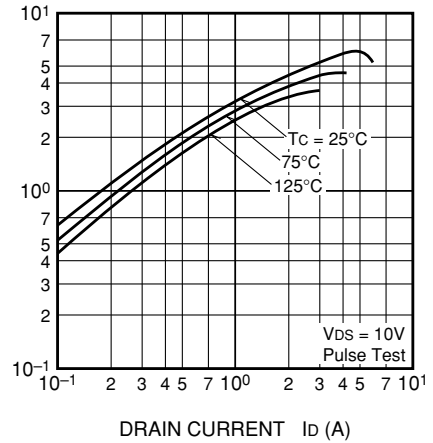
ON-STATE RESISTANCE VS. DRAIN CURRENT (TYPICAL)



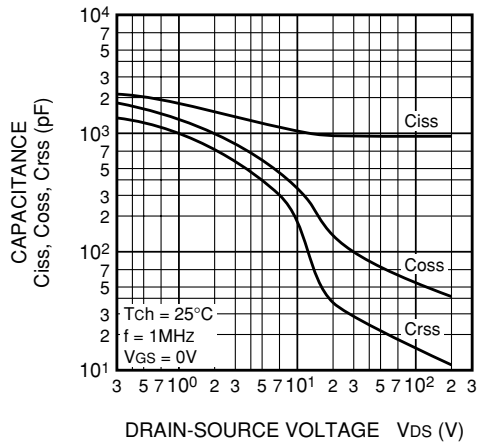
TRANSFER CHARACTERISTICS (TYPICAL)



FORWARD TRANSFER ADMITTANCE VS. DRAIN CURRENT (TYPICAL)



CAPACITANCE VS. DRAIN-SOURCE VOLTAGE (TYPICAL)



SWITCHING CHARACTERISTICS (TYPICAL)

