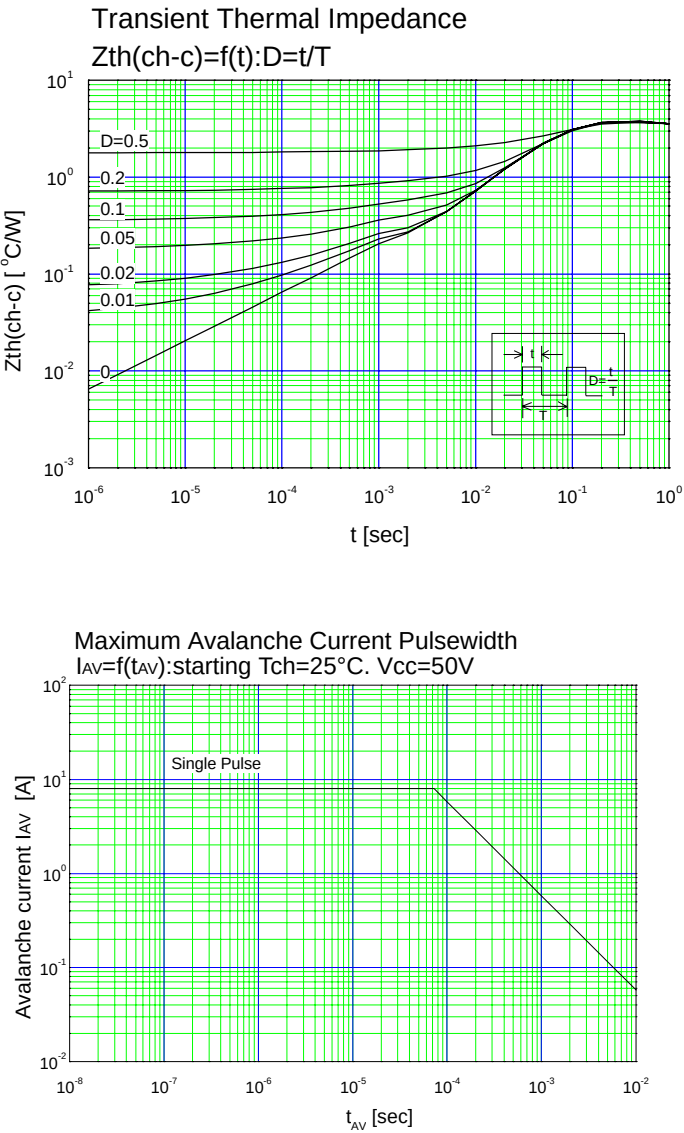




- Features
- High speed switching
- Low on-resistance
- No secondary breakdown
- Low driving power
- Avalanche-proof
- Applications
- Switching regulators
- UPS (Uninterruptible Power Supply)
- DC-DC converters

Maximum ratings and characteristicAbsolute maximum ratings

(Tc=25°C unless otherwise specified)

Item	Symbol	Ratings	Unit
Drain-source voltage	Vds	500	V
Continuous drain current	Id	±8	A
Pulsed drain current	Id(puls)	±32	A
Gate-source voltage	Vgs	±30	V
Repetitive or non-repetitive	IAR	*2 8	A
Maximum Avalanche Energy	EAS	*1 173	mJ
Maximum Drain-Source dV/dt	dVDS/dt	*4 20	kV/μs
Peak Diode Recovery dV/dt	dV/dt	*3 5	kV/μs
Max. power dissipation	Pd	Ta=25°C	2.16
		Tc=25°C	35
Operating and storage temperature range	Tch	+150	°C
	Tstg	-55 to +150	°C

*1 L=4.98mH, Vcc=50V *2 Tch≤150°C *3 If≤ -Id, -di/dt=50A/μs, Vcc≤ BVdss, Tch≤ 150°C

*4 VDS≤ 500V

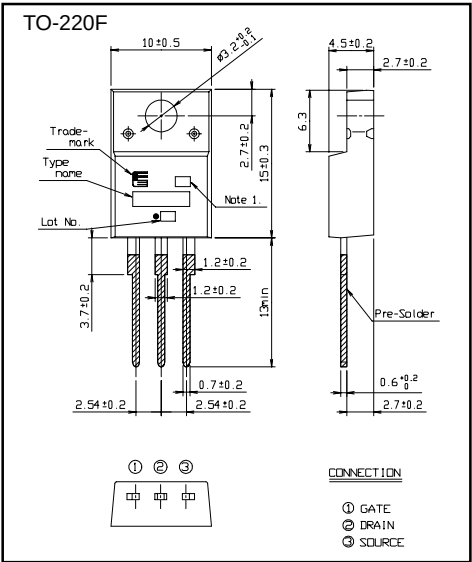
Electrical characteristics (Tc =25°C unless otherwise specified)

Item	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Drain-source breakdown voltaget	V(BR)DSS	Id= 250μA VGS=0V	500			V
Gate threshold voltage	VGS(th)	Id= 250μA Vds=VGS	3.0		5.0	V
Zero gate voltage drain current	IdSS	VDS=500V VGS=0V VDS=400V VGS=0V			25	μA
					250	
Gate-source leakage current	IGSS	VGS=±30V Vds=0V		10	100	nA
Drain-source on-state resistance	RDS(on)	Id=4A VGS=10V		0.65	0.85	Ω
Forward transconductance	gfs	Id=4A Vds=25V	3.5	7		S
Input capacitance	Ciss	VDS=25V		750	1130	pF
Output capacitance	Coss	VGS=0V		100	150	
Reverse transfer capacitance	Crss	f=1MHz		4.0	6.0	ns
Turn-on time ton	td(on)	Vcc=300V Id=4A VGS=10V		14	21	
	tr			9	14	
Turn-off time toff	td(off)	RGS=10 Ω		24	36	
	tr			6	9	
Total Gate Charge	QG	Vcc=250V Id=8A VGS=10V		20	30	nC
Gate-Source Charge	QGS			8.5	13	
Gate-Drain Charge	QGD			5.5	8.5	
Avalanche capability	I _{AV}	L=4.98mH Tch=25°C	8			A
Diode forward on-voltage	VSD	If=8A VGS=0V Tch=25°C		1.00	1.50	V
Reverse recovery time	trr	If=8A VGS=0V		0.65		μs
Reverse recovery charge	Qrr	-di/dt=100A/μs Tch=25°C		3.5		μC

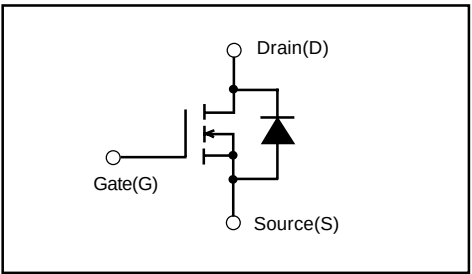
Thermalcharacteristics

Item	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Thermal resistance	Rth(ch-c)	channel to case			3.57	°C/W
	Rth(ch-a)	channel to ambient			58.0	°C/W

Outline Drawings



Equivalent circuit schematic



Characteristics

