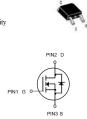


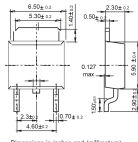
FEATURE

- TA=50V, R_{DS(on)} = 1.18 Ω @ V_{GS}=10V/3.5A
- Low gate charge
- Low C_{iss}
- Fast switching
- 100% avalanche tested
- Improved dv/dt capability



TO-252

Unit: mm



Dimensions in inches and (millimeters)

ABSOLUTE MAXIMUM RATINGS (T_c = 25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V _{DS}	650	V
Gate-Source Voltage	V _{GS}	±30	V
Avalanche Current (Note 2)	I _{AS}	7	A
Drain Current	I _D	7	A
Continuous	I _D	29.6	A
Pulsed (Note 2)	I _{DS}	530	mJ
Avalanche Energy	E _{AS}	14.2	mJ
Repetitive (Note 2)	E _{RS}	4.5	V/μs
Peak Diode Recovery dv/dt (Note 4)	dv/dt	48	W
Power Dissipation	P _D	±150	°C
Junction Temperature	T _J	-55 ~ +150	°C
Storage Temperature	T _{STG}	-55 ~ +150	°C

Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.
2. Repetitive Rating: Pulse width limited by maximum junction temperature
3. L = 18.0mH, I_{AS} = 7A, V_{DS} = 300V, R_{θJA} = 25.0, Starting T_J = 25°C
4. I_{AS} = 57A, dI/dt = 200A/μs, V_{DS} = 50V, Starting T_J = 25°C

http://www.wf-scsil.cn/

REV 1.0 2022 JAN
PAGE:14

7N65

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

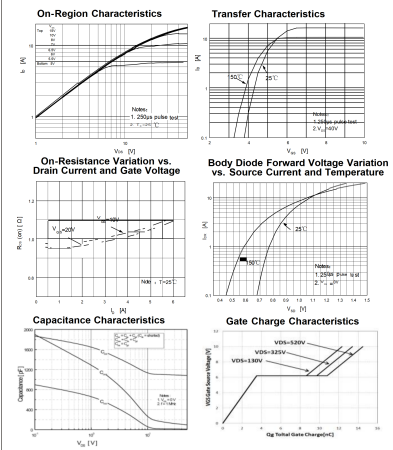
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V, I _D = 250μA	650			V
Drain-Source Leakage Current	I _{DSS}	V _{GS} = 650V, V _{DS} = 0V		1		μA
Gate-Source Leakage Current	I _{GSS}	V _{GS} = 30V, V _{DS} = 0V		100		nA
		V _{GS} = -30V, V _{DS} = 0V		100		nA
Breakdown Voltage Temperature Coefficient	ΔBV _{DSS} /ΔT _J	I _D = 250μA, Referenced to 25°C	0.67			V/°C
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{DS} , I _D = 250μA	2.0	4.0		V
Static Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 3.5A	1.18	1.67		Ω
DYNAMIC CHARACTERISTICS						
Input Capacitance	C _{iss}	V _{GS} = 25V, V _{DS} = 0V		1400		pF
Output Capacitance	C _{oss}	f = 1.0 MHz		180		pF
Reverse Transfer Capacitance	C _{rss}		16	21		pF
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	t _{ON}	V _{GS} = 25V, I _D = 7A		70		ns
Turn-On Rise Time	t _r	R _{θJA} = 250 (Note 1, 2)		170		ns
Turn-Off Delay Time	t _{OFF}			140		ns
Turn-Off Fall Time	t _f			130		ns
SWITCHING CHARACTERISTICS						
Total Gate Charge	Q _g	V _{GS} = 10V, I _D = 7A		29	38	nC
Gate-Source Charge	Q _{gs}	V _{GS} = 10V (Note 1, 2)		7		nC
Gate-Drain Charge	Q _{gd}			14.5		nC
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
Drain-Source Diode Forward Voltage	V _{SD}	V _{GS} = 0V, I _S = 7A		1.4		V
Maximum Continuous Drain-Source Diode Forward Current	I _S			7		A
Maximum Pulsed Drain-Source Diode Forward Current	I _{SM}			29.6		A
Reverse Recovery Time	t _{rr}	V _{GS} = 0V, I _S = 7A		320		ns
Reverse Recovery Charge	Q _{rr}	I _S = 1.00A (Note 1)		2.4		μC

Notes: 1. Pulse Test: Pulse width ≤ 300μs, Duty cycle ≤ 2%
2. Essentially independent of operating temperature

http://www.wf-scsil.cn/

REV 1.0 2022 JAN
PAGE:24

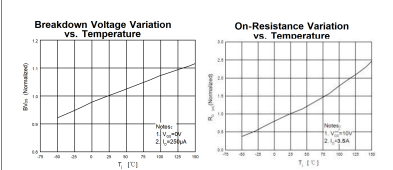
RATING AND CHARACTERISTIC CURVES (7N65)



http://www.wf-scsil.cn/

REV 1.0 2022 JAN
PAGE:34

RATING AND CHARACTERISTIC CURVES (7N65)



http://www.wf-scsil.cn/

REV 1.0 2022 JAN
PAGE:44