

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
900V	$3.5\Omega@10V$	4A

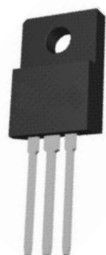
Feature

- Self-aligned planar Technology
- Low conduction loss

Application

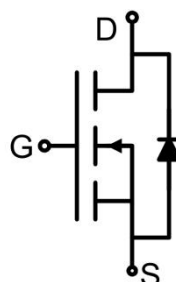
- Uninterruptible power supply (UPS)
- Power factor correction (PFC)

Package

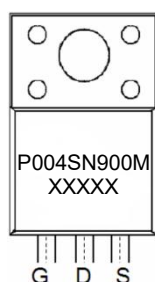


ITO-220AB

Circuit diagram



Marking



Absolute maximum ratings (T_c=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	900	V
Gate-Source Voltage	V _{GS}	±30	V
Continuous Drain Current (V _{GS} =10V)	I _D	4	A
Continuous Drain Current (V _{GS} =10V, T _c =100°C)	I _D (100°C)	2.1	A
Pulsed Drain Current ¹⁾	I _{DM}	16	A
Power Dissipation ²⁾	P _D	25	W
Single Pulse Avalanche Energy ³⁾	E _{AS}	125	mJ
Thermal Resistance, Junction-to-Case	R _{θJC}	5	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55 ~ +150	°C

Electrical characteristics (T_J=25 °C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	900			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =900V, V _{GS} =0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±30V, V _{DS} =0V			±100	nA
Gate threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	2	3	4.5	V
Drain-source on-resistance	R _{DS(on)}	V _{GS} =10V, I _D =2A		3	3.5	Ω
Dynamic characteristics ⁴⁾						
Input Capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f =1MHz		674		pF
Output Capacitance	C _{oss}			71		
Reverse Transfer Capacitance	C _{rss}			13		
Total Gate Charge	Q _g	V _{DS} =450V, V _{GS} =10V, I _D =4A		27		nC
Gate-Source Charge	Q _{gs}			3.5		
Gate-Drain Charge	Q _{gd}			14		
Turn-on delay time	t _{d(on)}	V _{DD} =720V, I _D =4A, R _G =25Ω		37		nS
Turn-on rise time	t _r			15		
Turn-off delay time	t _{d(off)}			144		
Turn-off fall time	t _f			36		
Source-Drain Diode characteristics						
Diode Forward Current	I _S				4	A
Diode Forward voltage	V _{SD}	V _{GS} =0V, I _S =2A			1.4	V
Reverse Recovery Time	T _{rr}	V _{GS} =0V, I _S =4A di _F /dt = 100A/μs		1.02		μS
Reverse Recovery Charge	Q _{rr}			2.2		μC

Notes:

- 1) The data tested by surface mounted on a 1 inch² FR-4 board with 20Z copper.
- 2) The power dissipation is limited by 150°C junction temperature.
- 3) The EAS data shows Max. rating . L=10mH, I_{AS}=6A, V_{DD}=50V, R_G=25Ω, Starting T_J=25 °C.
- 4) Guaranteed by design, not subject to production testing.

Typical Characteristics

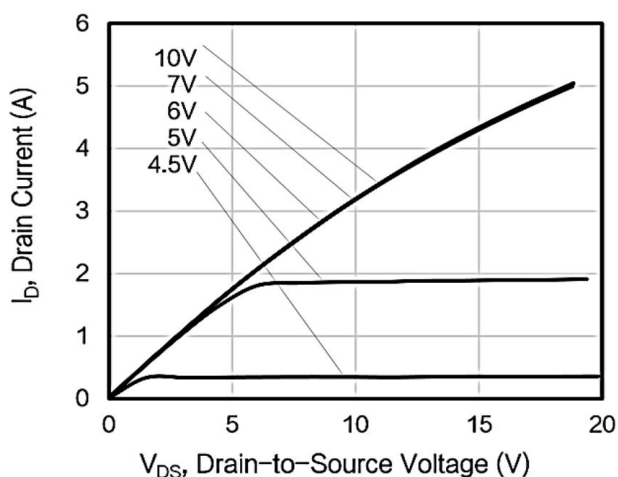


Figure 1. Output Characteristics

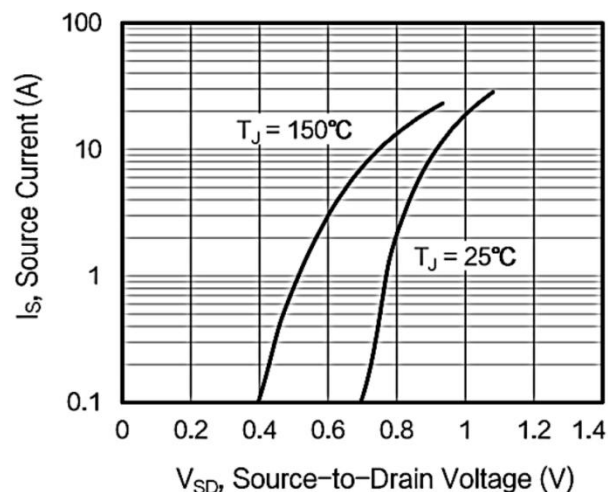


Figure 2. Body Diode Forward Voltage

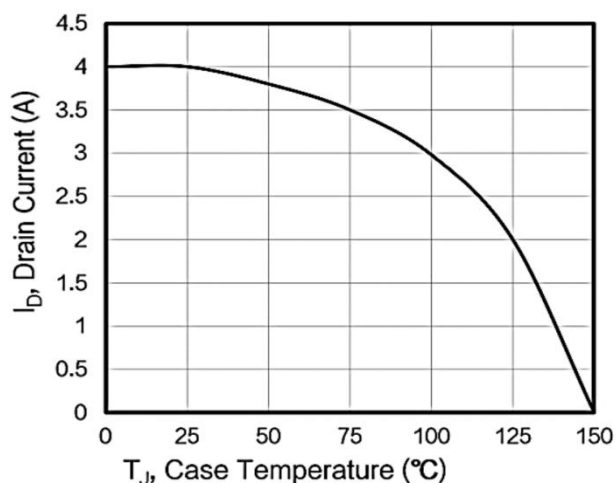


Figure3. Drain Current vs. Temperature

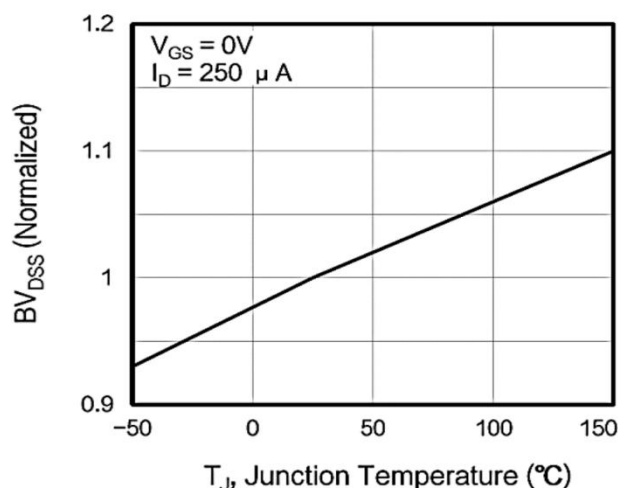


Figure4. BVDSS Variation vs. Temperature

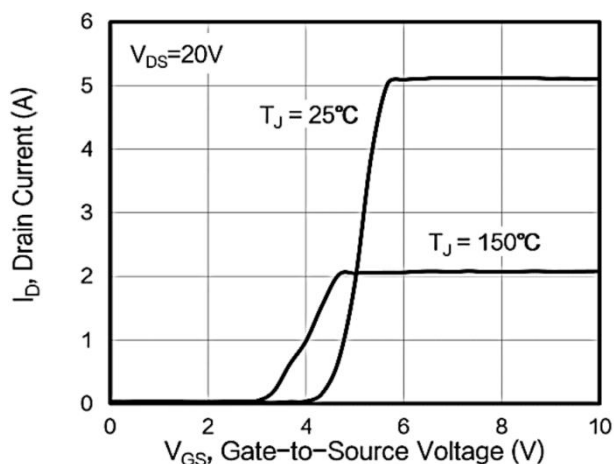


Figure 5. Transfer Characteristics

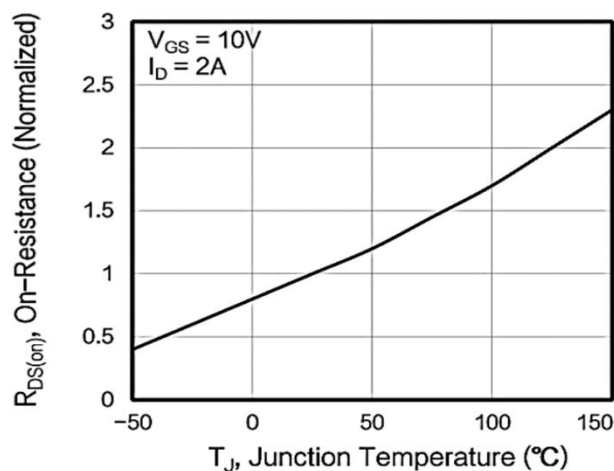


Figure 6. On-Resistance vs. Temperature

Typical Characteristics

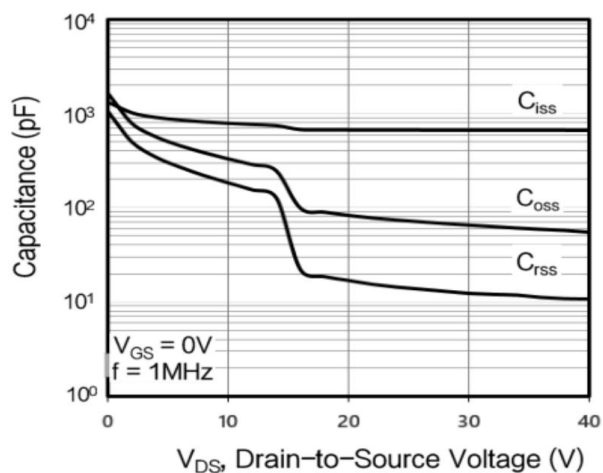


Figure 7. Capacitance

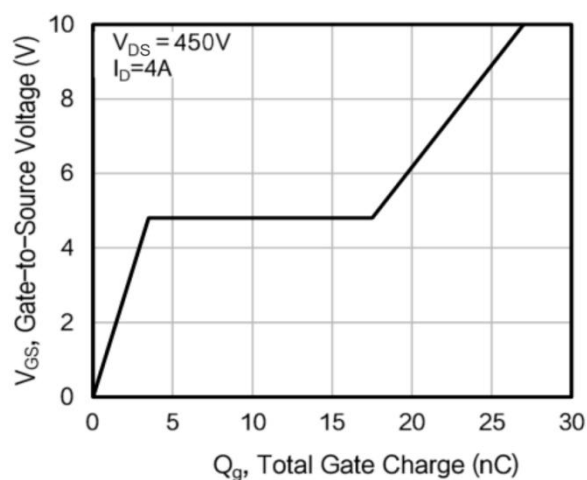


Figure 8. Gate Charge

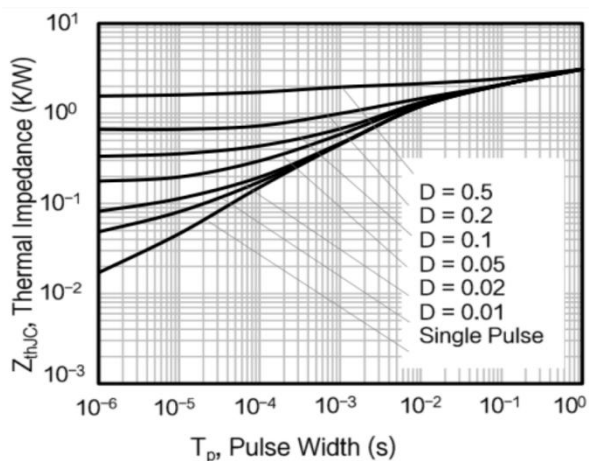
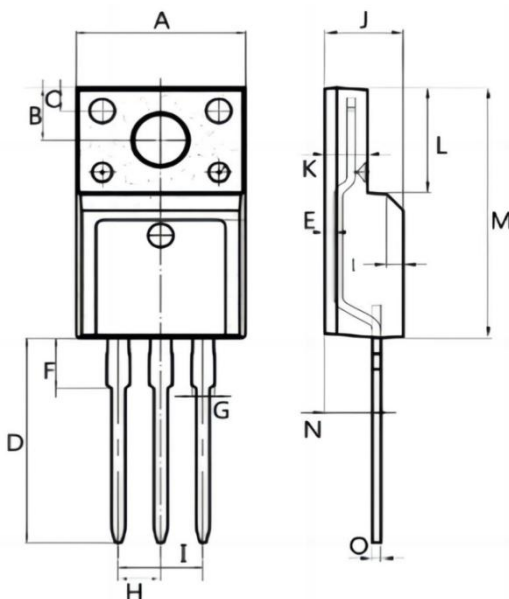


Figure 9. Transient Thermal Impedance

ITO-220AB Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	9.900	10.300	0.390	0.406
B	2.900	3.500	0.114	0.138
C	1.150	1.450	0.045	0.057
D	12.750	13.250	0.502	0.522
E	0.550	0.750	0.022	0.030
F	3.100	3.500	0.122	0.138
G	1.250	1.450	0.049	0.057
H	2.540 BSC.		0.100 BSC.	
I	5.080 BSC.		0.200 BSC.	
J	4.550	4.750	0.179	0.187
K	2.400	2.700	0.094	0.106
L	6.350	6.750	0.250	0.266
M	15.000	16.000	0.591	0.630
N	2.750	3.150	0.108	0.124
O	0.450	0.600	0.018	0.024