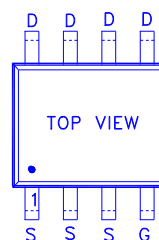
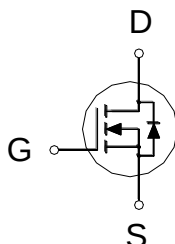


NIKO-SEM**N-Channel Enhancement Mode
Field Effect Transistor****P8008BVA****SOP-8****Halogen-Free & Lead-Free****PRODUCT SUMMARY**

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
80V	68m Ω	3.5A

G : GATE
D : DRAIN
S : SOURCE**ABSOLUTE MAXIMUM RATINGS ($T_A = 25\text{ }^{\circ}\text{C}$ Unless Otherwise Noted)**

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	80	V
Gate-Source Voltage		V_{GS}	± 25	V
Continuous Drain Current	$T_A = 25\text{ }^{\circ}\text{C}$	I_D	3.5	A
	$T_A = 70\text{ }^{\circ}\text{C}$		2.8	
Pulsed Drain Current ¹		I_{DM}	14	
Avalanche Current		I_{AS}	14.7	
Avalanche Energy	$L = 0.1\text{mH}$	E_{AS}	10.8	mJ
Power Dissipation	$T_A = 25\text{ }^{\circ}\text{C}$	P_D	1.8	W
	$T_A = 70\text{ }^{\circ}\text{C}$		1.1	
Operating Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 150	$^{\circ}\text{C}$

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient	$R_{\theta JA}$		69	$^{\circ}\text{C} / \text{W}$
Junction-to-Lead	$R_{\theta JL}$		25	$^{\circ}\text{C} / \text{W}$

¹Pulse width limited by maximum junction temperature.**ELECTRICAL CHARACTERISTICS ($T_J = 25\text{ }^{\circ}\text{C}$, Unless Otherwise Noted)**

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	80			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	1.3	1.8	2.3	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±25V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 64V, V _{GS} = 0V			1	μA
		V _{DS} = 64V, V _{GS} = 0V, T _J = 70 °C			10	

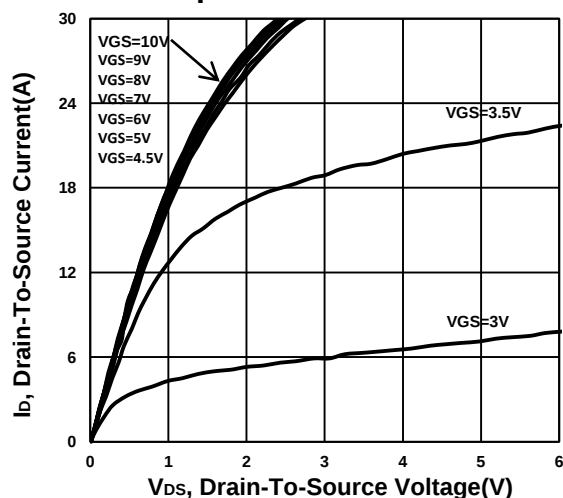
Drain-Source On-State Resistance ¹	R _{DS(ON)}	V _{GS} = 4.5V, I _D = 1A		47	78	mΩ
		V _{GS} = 10V, I _D = 3A		44	68	
Forward Transconductance ¹	g _{fs}	V _{DS} = 10V, I _D = 3A		17		S
DYNAMIC						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 25V, f = 1MHz		562		pF
Output Capacitance	C _{oss}			63		
Reverse Transfer Capacitance	C _{rss}			38		
Gate Resistance	R _g	V _{GS} = 0V, V _{DS} = 0V, f = 1MHz		1.2		Ω
Total Gate Charge ² (10V)	Q _g	V _{DS} = 80V, V _{GS} = 10V, I _D = 3A		14		nC
Total Gate Charge ² (4.5V)	Q _g			8		
Gate-Source Charge ²	Q _{gs}			2		
Gate-Drain Charge ²	Q _{gd}			4.5		
Turn-On Delay Time ²	t _{d(on)}	V _{DS} = 40V, I _D ≅ 3A, V _{GS} = 10V, R _G = 6Ω		15		nS
Rise Time ²	t _r			14		
Turn-Off Delay Time ²	t _{d(off)}			38		
Fall Time ²	t _f			17		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS						
Continuous Current	I _S				1.4	A
Forward Voltage ¹	V _{SD}	I _F = 3A, V _{GS} = 0V			1.3	V
Reverse Recovery Time	t _{rr}	I _F = 3A , dI _F /dt = 100A / μS		17		nS
Reverse Recovery Charge	Q _{rr}			10		nC

¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.

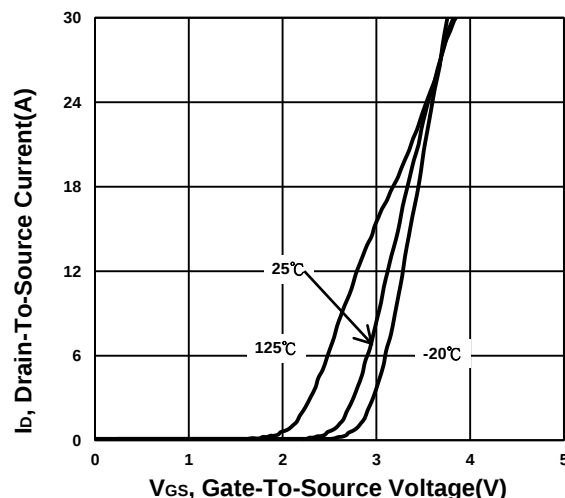
²Independent of operating temperature.

³Pulse width limited by maximum junction temperature.

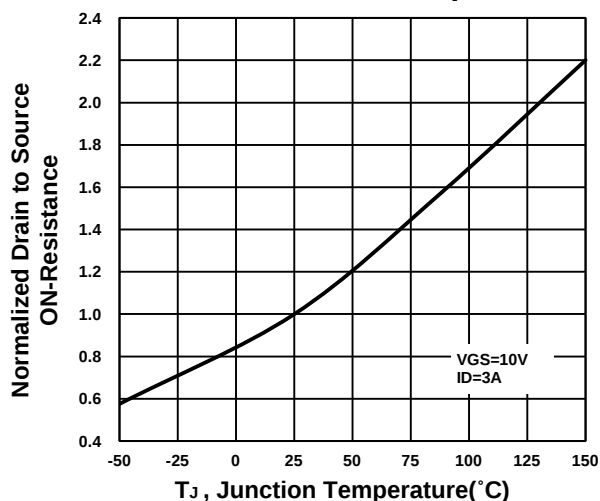
Output Characteristics



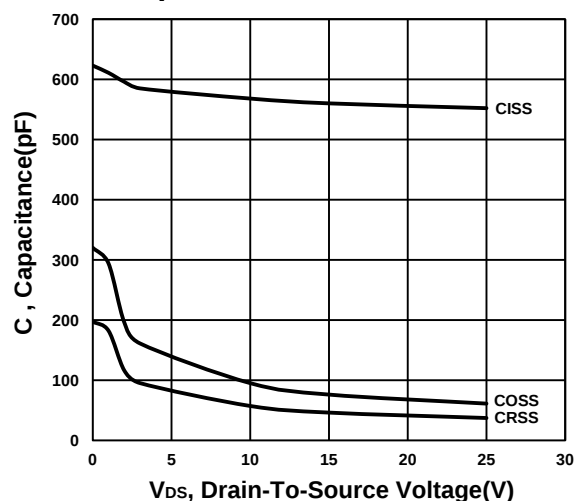
Transfer Characteristics



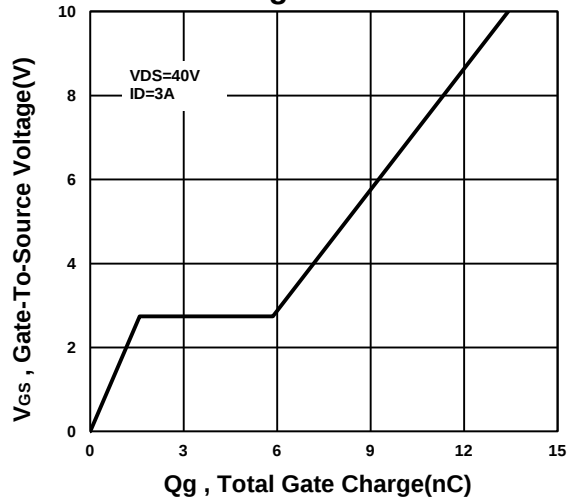
On-Resistance VS Temperature



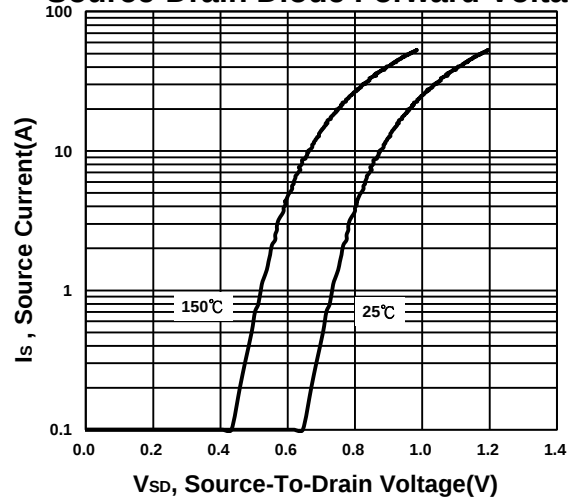
Capacitance Characteristic



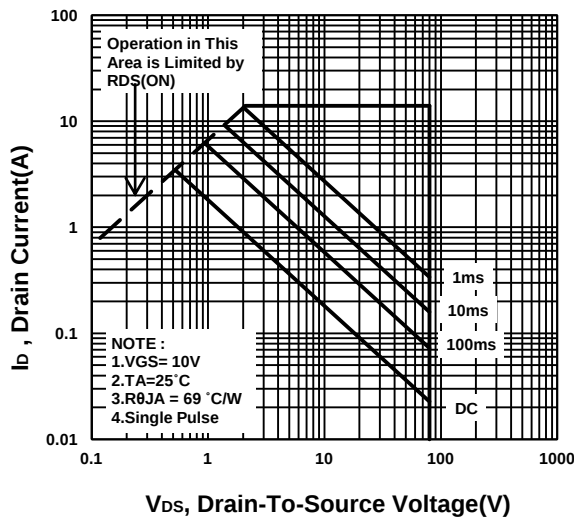
Gate charge Characteristics



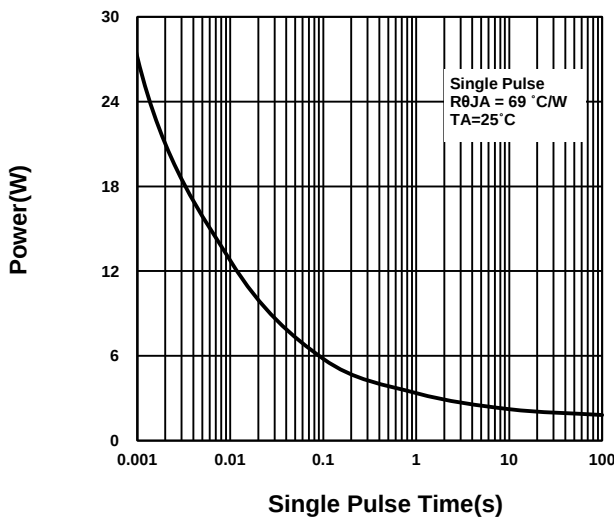
Source-Drain Diode Forward Voltage



Safe Operating Area



Single Pulse Maximum Power Dissipation



Transient Thermal Response Curve

