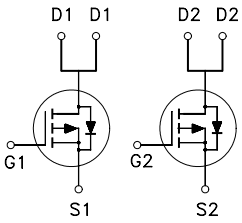
NIKO-SEM Dual P-Channel Logic Level Enhancement Mode Field Effect Transistor

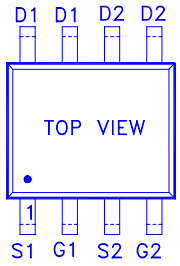
P06B03LV

SOP-8

PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
-30	50mΩ	-6A





G :GATE
D :DRAIN
S :SOURCE

ABSOLUTE MAXIMUM RATINGS (T_C = 25 °C Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current	T_C = 25 °C	I_D	-6	A
	T_C = 70 °C		-5	
Pulsed Drain Current[1]		I_{DM}	-30	
Power Dissipation	T_C = 25 °C	P_D	2.5	W
	T_C = 70 °C		1.3	
Operating Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient	$R_{\theta JA}$		62.5	°C / W

[1]Pulse width limited by maximum junction temperature.
[2]Duty cycle ≤ 1%

ELECTRICAL CHARACTERISTICS (T_C = 25 °C, Unless Otherwise Noted)

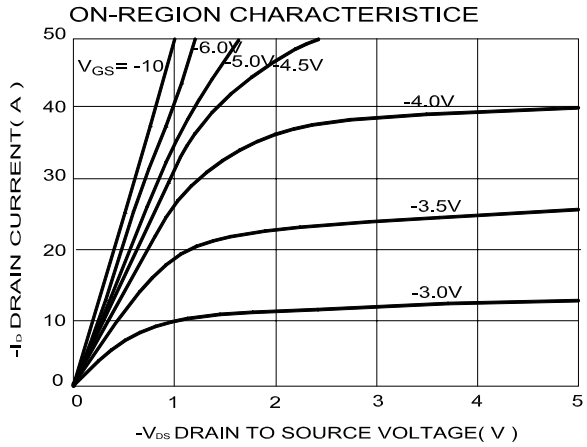
PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS MIN	LIMITS TYP	LIMITS MAX	UNIT
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = -250μA	-30			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250μA	-0.9	-1.5	-3	
Gate-Body Leakage	I_{GSS}	V_{DS} = 0V, V_{GS} = ±20V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = -24V, V_{GS} = 0V			1	μA
		V_{DS} = -20V, V_{GS} = 0V, T_J = 125 °C			10	
On-State Drain Current[1]	$I_{D(ON)}$	V_{DS} = -5V, V_{GS} = -10V	-30			A
Drain-Source On-State Resistance[1]	$R_{DS(ON)}$	V_{GS} = -4.5V, I_D =- 5A		65	80	mΩ
		V_{GS} = -10V, I_D = -6A		40	50	
Forward Transconductance[1]	g_{fs}	V_{DS} = -10V, I_D = -6A		16		S

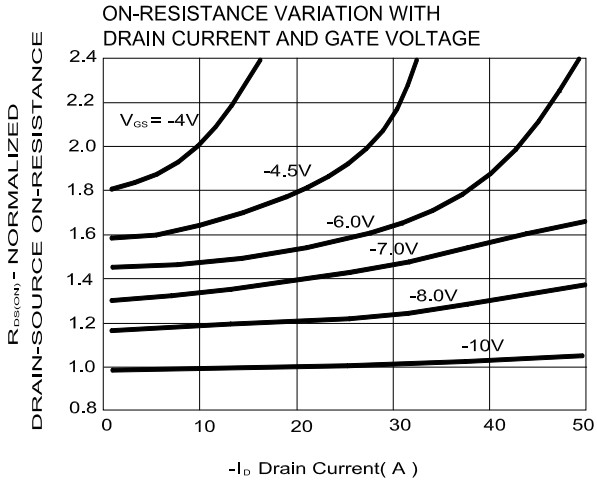
DYNAMIC						
Input Capacitance	C_{iss}	V_{GS} = 0V, V_{DS} = -15V, f = 1MHz		530		pF
Output Capacitance	C_{oss}			135		
Reverse Transfer Capacitance	C_{rss}			70		
Total Gate Charge[2]	Q_g	V_{DS} = 0.5$V_{(BR)DSS}$, V_{GS} = -10V, I_D = -6A		10	14	nC
Gate-Source Charge[2]	Q_{gs}			2.2		
Gate-Drain Charge[2]	Q_{gd}			2		
Turn-On Delay Time[2]	$t_{d(on)}$	V_{DS} = -15V, R_L = 1Ω, I_D ≅ -1A, V_{GS} = -10V, R_{GS} = 6Ω		5.7		nS
Rise Time[2]	t_r			10		
Turn-Off Delay Time[2]	$t_{d(off)}$			18		
Fall Time[2]	t_f			5		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS (T_C = 25 °C)						
Continuous Current	I_S				-2.1	A
Pulsed Current[3]	I_{SM}				-4	
Forward Voltage[1]	V_{SD}	I_F = -1A, V_{GS} = 0V			-1.2	V
Reverse Recovery Time	t_{rr}	I_F = -5A, dI_F/dt = 100A / μS		15.5		nS
Reverse Recovery Charge	Q_{rr}			7.9		nC

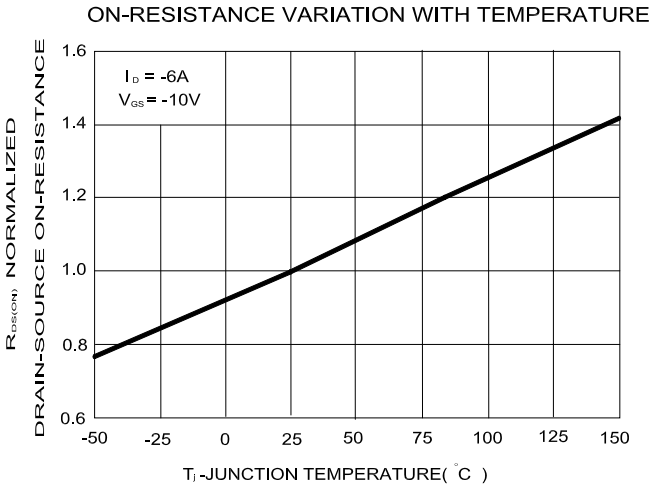
[1]Pulse test : Pulse Width ≤ 300 μsec, Duty Cycle ≤ 2%.
[2]Independent of operating temperature.
[3]Pulse width limited by maximum junction temperature.

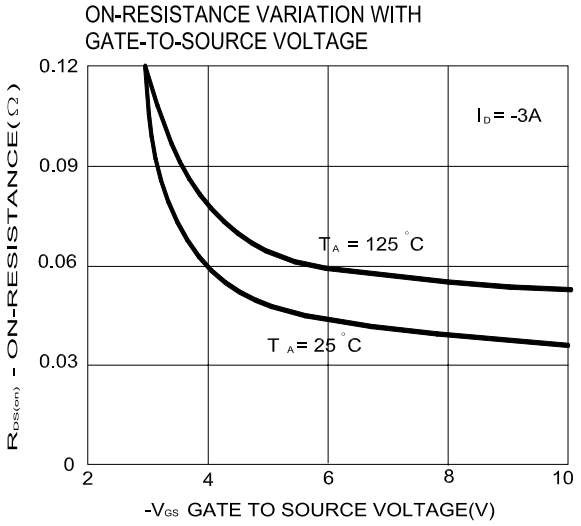
REMARK: THE PRODUCT MARKED WITH "P06B03LV", DATE CODE or LOT #

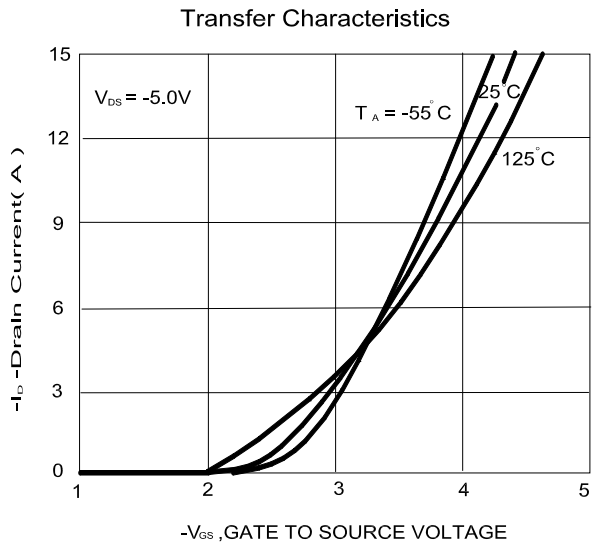
Typical Characteristics

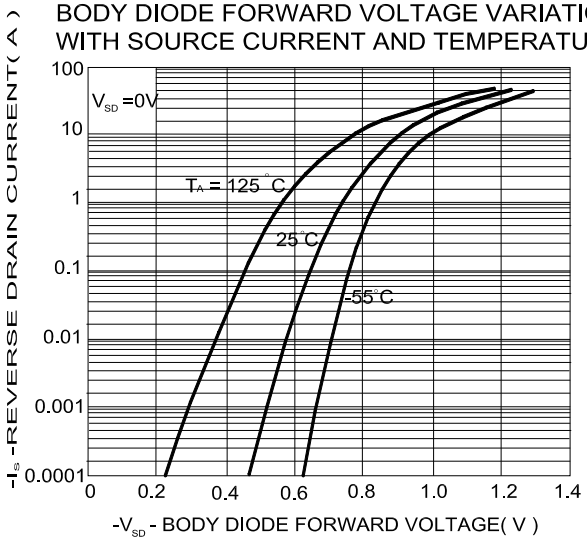




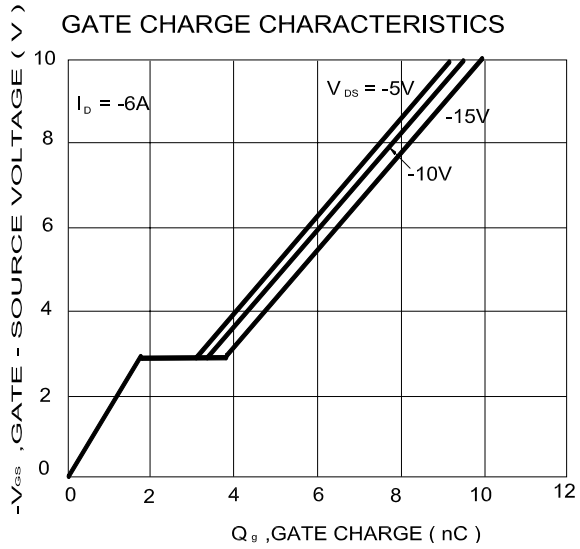




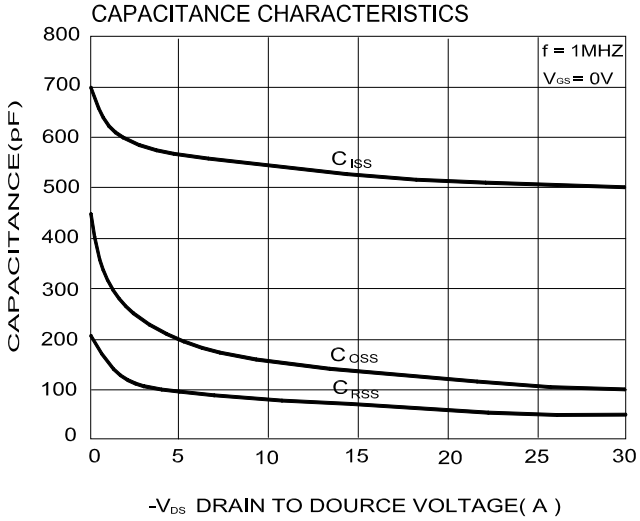




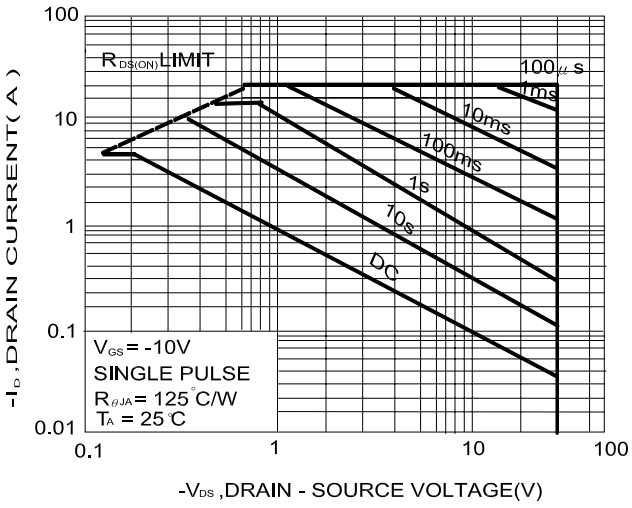
GATE CHARGE CHARACTERISTICS



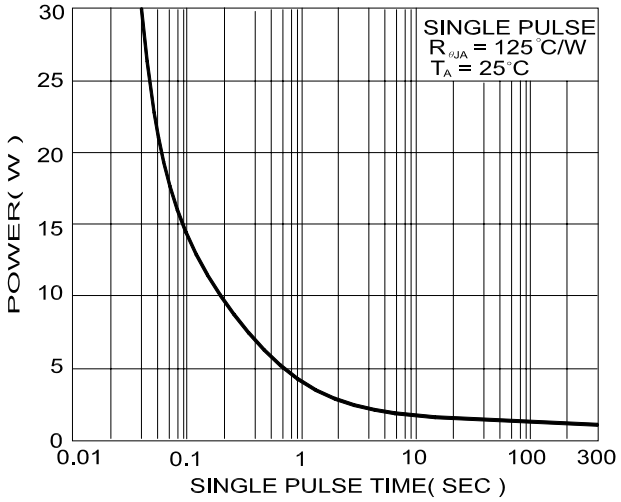
CAPACITANCE CHARACTERISTICS



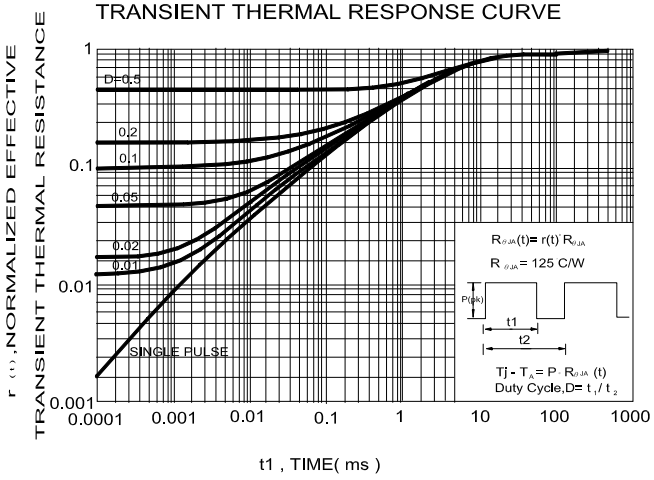
GATE CHARGE CHARACTERISTICS.



SINGLEPULSE MAXIMUM POWER DISSIPATION



TRANSIENT THERMAL RESPONSE CURVE



SOIC-8 (D) MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	4.8	4.9	5.0	H	0.5	0.715	0.83
B	3.8	3.9	4.0	I	0.18	0.254	0.25
C	5.8	6.0	6.2	J		0.22	
D	0.38	0.445	0.51	K	0°	4°	8°
E		1.27		L			
F	1.35	1.55	1.75	M			
G	0.1	0.175	0.25	N