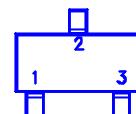
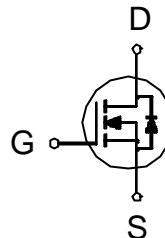


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
25	85m	3A



1. GATE
2. DRAIN
3. SOURCE

ABSOLUTE MAXIMUM RATINGS ($T_c = 25^\circ\text{C}$ Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS	SYMBOL	LIMITS	UNITS
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	3	A
		2	
Pulsed Drain Current ¹	I_{DM}	20	
Power Dissipation	P_D	0.6	W
		0.5	
Operating Junction & Storage Temperature Range	T_j, T_{stg}	-55 to 150	$^\circ\text{C}$
Lead Temperature ($1/16''$ from case for 10 sec.)	T_L	275	

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Case	$R_{\theta JC}$		65	
Junction-to-Ambient	$R_{\theta JA}$		230	$^\circ\text{C} / \text{W}$

¹Pulse width limited by maximum junction temperature.

²Duty cycle $\leq 1\%$

ELECTRICAL CHARACTERISTICS ($T_c = 25^\circ\text{C}$, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu\text{A}$	25			V
Gate Threshold Voltage	$V_{GS(\text{th})}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	0.8	1.2	2.5	
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 20V, V_{GS} = 0V$			1	μA
		$V_{DS} = 20V, V_{GS} = 0V, T_J = 125^\circ\text{C}$			10	
On-State Drain Current ¹	$I_{D(\text{ON})}$	$V_{DS} = 10V, V_{GS} = 10V$	3			A
Drain-Source On-State Resistance ¹	$R_{DS(\text{ON})}$	$V_{GS} = 4.5V, I_D = 1.5A$		70	115	m
		$V_{GS} = 10V, I_D = 3A$		48	85	

NIKO-SEM**N-Channel Logic Level Enhancement Mode
Field Effect Transistor (Preliminary)****P8503BMG**

SOT-23

Lead Free

Forward Transconductance ¹	g_{fs}	$V_{DS} = 15V, I_D = 3A$		16		S
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 15V, f = 1MHz$		450		pF
Output Capacitance	C_{oss}			200		
Reverse Transfer Capacitance	C_{rss}			60		
Total Gate Charge ²	Q_g	$V_{DS} = 0.5V_{(BR)DSS}, V_{GS} = 10V,$ $I_D = 3A$		15		nC
Gate-Source Charge ²	Q_{gs}			2.0		
Gate-Drain Charge ²	Q_{gd}			7.0		
Turn-On Delay Time ²	$t_{d(on)}$	$V_{DS} = 15V, R_L = 1$ $I_D \approx 3A, V_{GS} = 10V, R_{GS} = 2.5$		6.0		nS
Rise Time ²	t_r			6.0		
Turn-Off Delay Time ²	$t_{d(off)}$			20		
Fall Time ²	t_f			5.0		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_C = 25^\circ C$)						
Continuous Current	I_S				2.3	A
Pulsed Current ³	I_{SM}				4.6	
Forward Voltage ¹	V_{SD}	$I_F = I_S, V_{GS} = 0V$			1.5	V

¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.²Independent of operating temperature.³Pulse width limited by maximum junction temperature.**REMARK: THE PRODUCT MARKED WITH “10YWW”, DATE CODE or LOT #****Orders for parts with Lead-Free plating can be placed using the PXXXXXXXXG parts name**

SOT-23 (M3) MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	0.85		1.15	H	0.1	0.15	0.25
B	2.4		3	I	0.37		
C	1.4	1.6	1.8	J			
D	2.7	2.9	3.1	K			
E	1	1.1	1.3	L			
F	0		0.1	M			
G	0.35		0.5	N			

