TECH PUBLIC
台舟电子

TPM3080PK3

P-Channel Enhancement Mode MOSFET

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Features

- V_{DS} =-30V,I_D =-80A
- $R_{DS(ON)}$≦8mΩ@V_{GS}=-10V
- $R_{DS(ON)}$≦11mΩ@V_{GS}=-4.5V

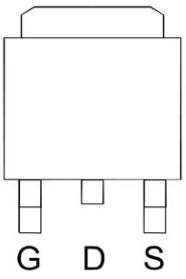
Application

- Load/Power Switching
- Interfacing Switching
- Battery Management for Ultra Small Portable
- Electronics
- Logic Level Shift

Package and Pin Configuration

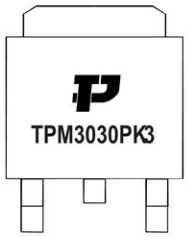
(TO-252)

Top View



1. GATE
2. DRAIN
3. SOURCE

Marking:



Absolute Maximum Ratings (T_A=25℃ Unless Otherwise Noted)

Parameter		Symbol	Maximum Ratings	Unit
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current*	T_C=25℃	I_D	-80	A
	T_C=70℃		-65	
Pulsed Drain Current (Package limited)		I_{DM}	-200	A
Maximum Power Dissipation*	T_C=25℃	P_D	83	W
	T_C=70℃		53	
Operating Junction Temperature		T_J	-55 to 150	℃
Thermal Resistance-Junction to Case*		$R_{\theta JC}$	1.5	

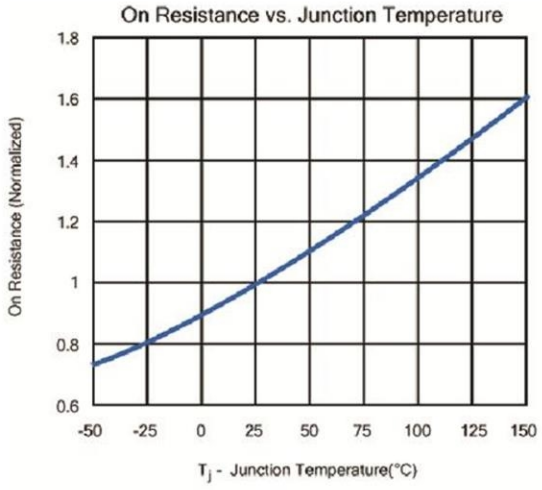
Electrical Characteristics (T_A=25℃ Unless Otherwise Specified)

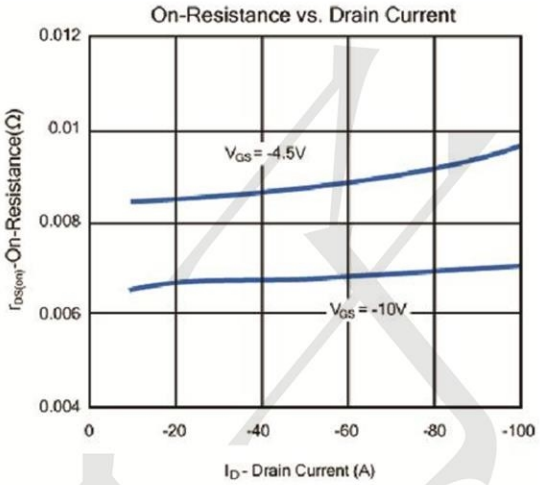
Symbol	Parameter	Limit	Min	Typ	Max	Unit
STATIC						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=-250μA	-30			V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS}, I_D=-250μA	-1		-3	V
I_{GSS}	Gate Leakage Current	V_{DS}=0V, V_{GS}=±20V			±100	nA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=-30V, V_{GS}=0V			-1	μA
$R_{DS(ON)}$	Drain-Source On-State Resistance[a]	V_{GS}=-10V, I_D= -20A		6.7	8	mΩ
		V_{GS}=-4.5V, I_D= -20A		8.4	11	
V_{SD}	Diode Forward Voltage	I_S=-1A, V_{GS}=0V		-0.7	-1.2	V
DYNAMIC						
Qg	Total Gate Charge	V_{DS}=-15V, V_{GS}=-10V, I_D=-20A		88		nC
Qg	Total Gate Charge	V_{DS}=-15V, V_{GS}=-4.5V, I_D=-20A		44		
Qgs	Gate-Source Charge			12.5		
Qgd	Gate-Drain Charge			19.5		
Ciss	Input capacitance	V_{DS}=-15V, V_{GS}=0V, F=1MHz		3887		pF
Coss	Output Capacitance			432		
Crss	Reverse Transfer Capacitance			372		
$t_{d(on)}$	Turn-On Delay Time	V_{DS}=-15V, R_L=15Ω V_{GS}=-10V, R_G=6Ω I_D=-1A		48		ns
t_r	Turn-On Rise Time			20		
$t_{d(off)}$	Turn-Off Delay Time			170		
t_f	Turn-Off Fall Time			54		

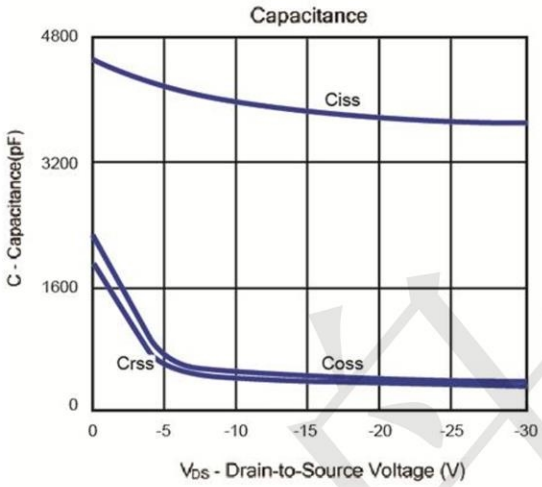
Notes: a. Pulse test: pulse width≦ 300us, duty cycle≦ 2%,Guaranteed by design, not subject to production testing.

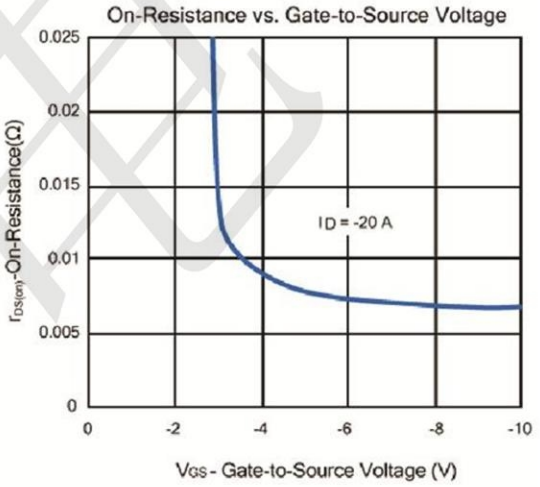
b. Matsuki Electric/ Force mos reserves the right to improve product design, functions and reliability without notice.

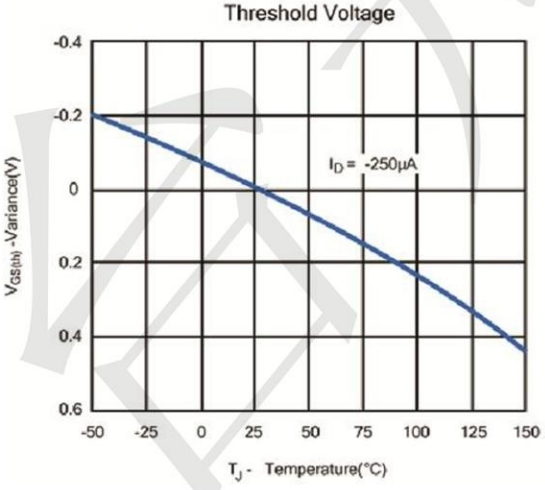
Typical Characteristics

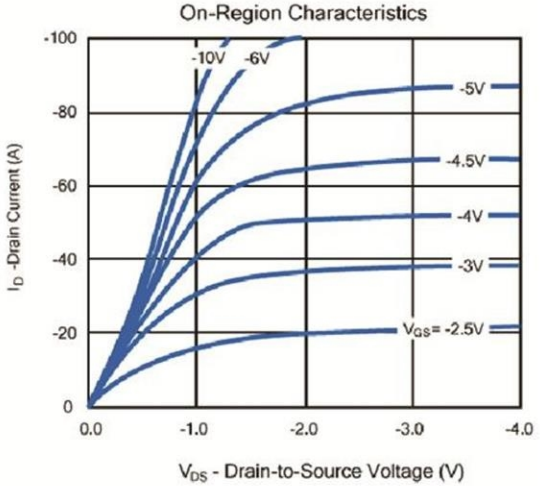


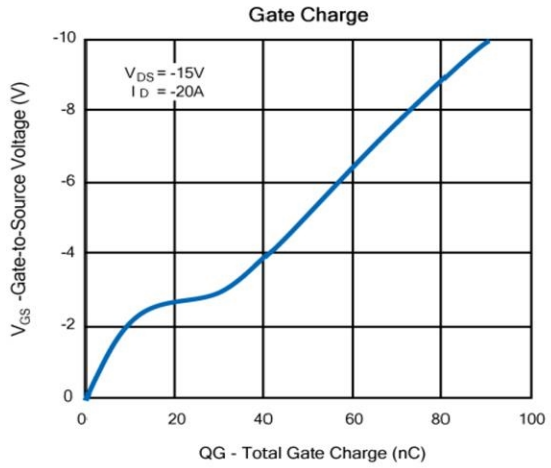


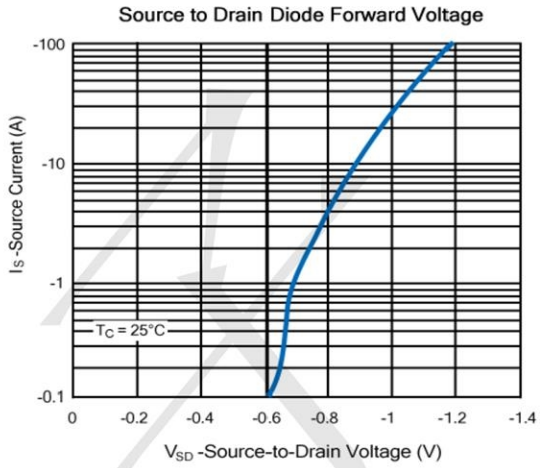


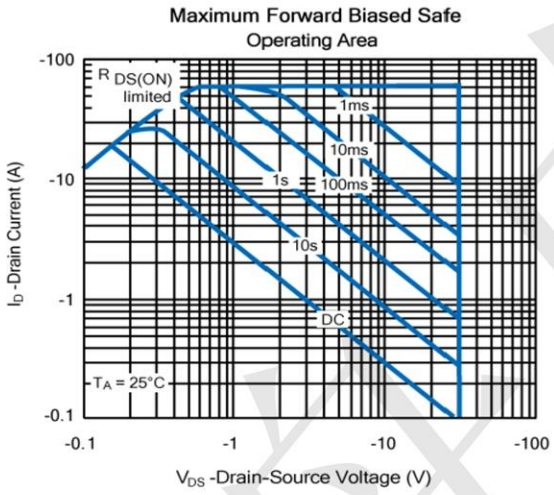












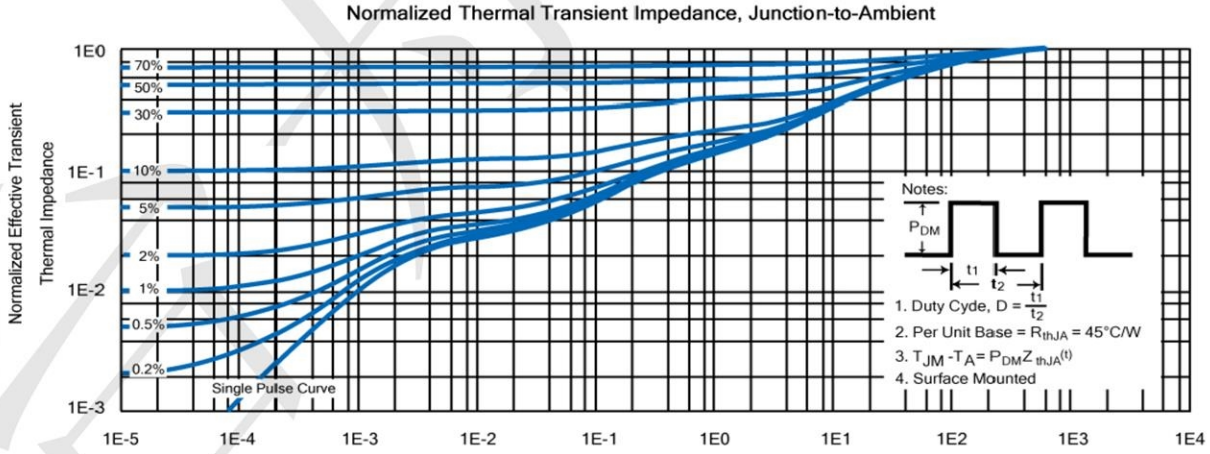
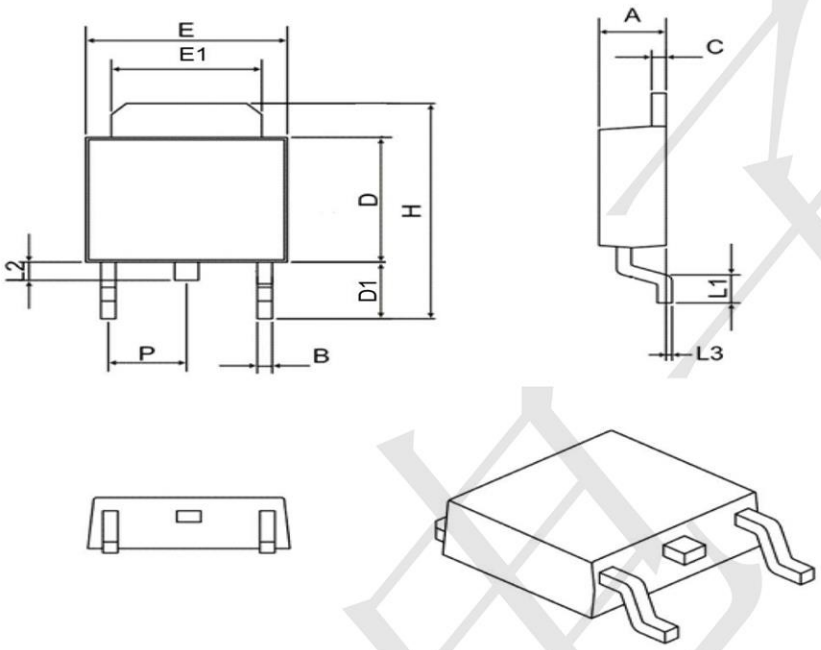


Figure 11 Normalized Maximum Transient Thermal Impedance

TO252 Package Information



SYMBOL	MIN	MAX
A	2.10	2.50
B	0.40	0.90
C	0.40	0.90
D	5.30	6.30
D1	2.20	2.90
E	6.30	6.75
E1	4.80	5.50
L1	0.90	1.80
L2	0.50	1.10
L3	0.00	0.20
H	8.90	10.40
P	2.30 BSC	