

RMP6N60LD  
(IP)(TI)(T2)

N-CHANNEL ENHANCEMENT MODE MOSFET

\* HIGH VOLTAGE SWITCHING REQUIREMENTS

RMP6N60 is an N-channel enhancement mode MOSFET, which uses the self-aligned planar process and improved terminal technology, reducing the conduction loss, enhancing the avalanche energy.

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9.66		9
,		\$
5.6 21		
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FEATURES

- € Low Crss
- € Low gate charge
- € Fast switching
- € Improved ESD capability
- € Improved dv/dt capability
- € 100% avalanche energy test

APPLICATIONS

- € High efficiency switch mode power supplies
- € Electronic lamp ballasts
- € UPS

RMP6N60IP

6N60

6 \ P E R O

3 D F N D J H

## ABSOLUTE MAXIMUM RATINGS (Tc=25°C)

3DUDPHWHU	\PERO6	9DOXH	8QLW
'UDLQ 6RXUFH9ROWDJH	9.66		9
&RQWLQXHV 'UDLQ &XUUHQW	7 F °C		\$
	7 F °C		
3OXVHG 'UDLQ &XUUHQW	,0		\$
*DWH WR 6RXUFH9ROWDJH	9.6	±	9
6LQJOH3XOVHG \$YDODQFKH (QHUJ)	(\$6		P-
\$YDODQFKH &XUUHQW	,\$5		\$
5HSHWLWLYH \$YDODQFKH (QHUJ)	(\$5		P-
3HDN 'LRGH 5HFRYHU\	GY GW		9 QV
3RZHU 'LVVLSDWLRQ $7 F^3 °C$	72 72		:
	72		
	72 )		
3RZHU 'LVVLSDWLRQ 'HUDWLRQ $7 F^3 °C$	72 72		: °C
	72		
	72 )		
2SHUDWLQJ DQG 6WRUDJH 7HPSHUDWXUH 5DQJLRQ	72 ~ 72		°C
0D[LXP 7HPSHUDWXUH IRU 6ROGHU	72		°C

## THERMAL CHARACTERISTIC

3DUDPHWHU	6\PERO	0D[	8QLW
7KHUPDO 5HFRYHU\ 5DQJLRQ 5HFRYHU\	72 72		°C/W
	F 72		
	72 )		
7KHUPDO 5HFRYHU\ 5DQJLRQ 5HFRYHU\	72 72		°C/W
	\$ 72		
	72 )		

\* 'UDLQ FXUUHQW OLPLWHG E\ PD[LXP MXQFWLRQ WHPSHUDWXUH

# ELECTRICAL CHARACTERISTICS

Off-Characteristics						
3DUDPHWHU		6\PERO	7HVWV & RQGLWLRQV		0LQ	7V
'UDLQ 6RXUFH %UHDNGRZQ 9ROWDJH	9.6	\$ 9.9			9	
%UHDNGRZQ 9ROWDJH & RHIILFLHQW	7.7	UH IHUHQFHG WR			9°C	
=HUR *DWH 9ROWDJH 'UDLQ & XUHQW	9.6	9.9 9.9			\$	
*DWH ERG\OHDNDJH FXUUHQW IRUZDUG	9.6	9.7 °C			Q\$	
*DWH ERG\OHDNDJH FXUUHQW UHYHUYH	9.6	9.9 9.9			Q\$	

On-Characteristics						
3DUDPHWHU		6\PERO	7HVWV & RQGLWLRQV		0LQ	7V
*DWH 7KUHVKROG 9ROWDJH	9.6	9.6	\$		9	
6WDWLF 'UDLQ 6RXUFH 2Q 5HVLVWDQFH	9.6	9.9	\$			
)RUZDUG 7UDQVFRQGXFWDQFH	9.6	9	\$ QRWH			6

Dynamic Characteristics						
3DUDPHWHU	6\PERO	7HVWV & RQGLWLRQV		0LQ	7\SH	0
,QSXFDSDFLWDQFH	9.6				S)	
2XWSXFDSDFLWDQFH	9.6	9.9 9.9	0+=			
5HYHUVHWUDQVIHUFSDFLWDQFH	9.6					

### Switching Characteristics

3DUDPHWHU	6\PERO	7HVWV & RQGLWLRQV	0LQ
7XUQ 2Q GHOD\WLRQ	W		
7XUQ 2Q ULVH WLP H	9. W 9. \$ 5		
7XUQ 2II GHOD\WLRQ	W QR.WH		QV
7XUQ 2II)DOO WLP H	W		
7RWDO *DWH & KDUIH	4J		
*DWH 6RXUFH FKDIH	9. 9. \$ 9. 9 4J V QR.WH		- Q&
*DWH 'UDLQ FKDIH	4JG		- Q&

### Drain-Source Diode Characteristics and Maximum Ratings

3DUDPHWHU	6\PERO	7HVWV & RQGLWLRQV	0LQ
0D[LPXP & RQWLQXR XV 'UDLQ 6RXUFH 'LRGH)RUZDUG & XUHQW	.6		
0D[LPXP 3XOVHG 'UDLQ 6RXUFH 'LRGH )RUZDUG & XUHQW	.60		
'UDLQ 6RXUFH 'LRGH)RUZDUG 9ROWDJH	9.6 \$		9
5HYHUVHUHFYHU\WLP H	9.6 9.6 \$		
5HYHUVHUHFYHU\FKDIH	G,GW \$ V QRWH		

1RWHV

- : 3XOVH ZLGWK OLPLWHG E\ PD[LPXP MXQFWLRQ WHPSHUDWXUH
- :  $I_{FS} = P + S_{96} = \$ 9 = 9 \text{ } 6 \text{ WDUW LQJ } 7$
- :  $I_{6} \leq \$ G \leq G \text{ } V \cdot 9 \% 9.6 \text{ } 6 \text{ WDUW LQJ } 7$
- : 3XOVH 7HVW 3XOVH : LGWK & OH
- : (VVHQWLDOO\ LQGHSHQG HQW RIRSHUDWLQJ WHPSHUDWXUH

# RATING AND CHARACTERISTICS CURVES (RMP6N60LD(IP)(TI)(T2))

)LJ 2Q 6WDWH &KDUDFWHULVWLFV

)LJ 7UDQV

)LJ %UHDNGRZQ 9ROWDJH 9DULDWLRQ YV 7HPSWUBW XVHHP SHUDV

)LJ &DSDFLWDQFH &KDUDFWHULVWLFV

)LJ \*DWH

# RATING AND CHARACTERISTICS CURVES (RMP6N60LD(IP)(TI)(T2))

) L J 0 D [ L P X P 6 D I H 2 S H U D W L Q J \$ U H D

) L J 0 D [ L P X P 6 D I H 2 S H U D W L Q J \$ U H D & X U

) L J Transient Thermal Response Curve (TO-251/TO-252)

) L J Transient Thermal Response Curve (TO-220/TO-262)

) L J Transient Thermal Response Curve (TO-220F)

# TEST CIRCUITS AND WAVEFORMS

)LJ 5HVLVWLYH 6ZLWFKLQJ 7HVW &LUFXLW :DYHIRUP

)LJ \*DWH &KDUJH 7HVW &LUFXLW :DYHIRUP

)LJ 8QFODPSHG ,QGXFVWLYH 6ZLWFKLQJ 7HVW &LUFXLW :

## PACKAGE MECHANICAL DATA







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