



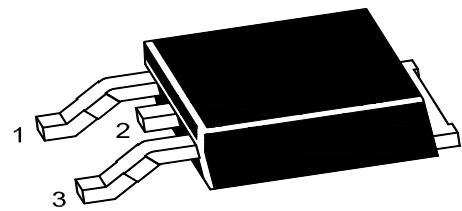
# PJM08N60TE

## N-Channel Enhancement Mode Power MOSFET

### Features

- High density cell design for ultra low  $R_{DS(on)}$
- Excellent package for good heat dissipation
- $V_{DS} = 60V, I_D = 8A$
- $R_{DS(on)} < 80m\Omega @ V_{GS} = 10V$

TO-252

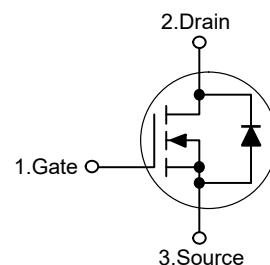


1. Gate 2.Drain 3.Source

### Applications

- Power switching application
- Hard switched and high frequency circuits

### Schematic Diagram



### Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	60	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Drain Current-Continuous	$I_D$	8	A
Drain Current-Pulsed <sup>Note1</sup>	$I_{DM}$	24	A
Maximum Power Dissipation	$P_D$	32.5	W
Junction Temperature	$T_J$	150	°C
Storage Temperature Range	$T_{STG}$	-55 to +150	°C

### Thermal Characteristics

Maximum Junction-to-Case <sup>Note2</sup>	$R_{eJC}$	3.846	°C/W
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## Electrical Characteristics

(Ta=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
<b>Static Characteristics</b>						
Drain-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> =0V, I <sub>D</sub> =250μA	60	--	--	V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =60V, V <sub>GS</sub> =0V	--	--	1	μA
Gate-Body Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±20V, V <sub>DS</sub> =0V	--	--	±0.1	μA
Gate Threshold Voltage <sup>Note3</sup>	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA	1.0	1.3	2.0	V
Drain-Source On-Resistance <sup>Note3</sup>	R <sub>DS(on)</sub>	V <sub>GS</sub> =10V, I <sub>D</sub> =4A	--	56	80	mΩ
Forward Transconductance <sup>Note3</sup>	g <sub>FS</sub>	V <sub>DS</sub> =15V, I <sub>D</sub> =2A	--	3	--	S
<b>Dynamic Characteristics</b>						
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =30V, V <sub>GS</sub> =0V, f=1MHz	--	247	--	pF
Output Capacitance	C <sub>oss</sub>		--	34	--	pF
Reverse Transfer Capacitance	C <sub>rss</sub>		--	19.5	--	pF
<b>Switching Characteristics</b>						
Turn-on Delay Time	t <sub>d(on)</sub>	V <sub>DD</sub> =30V, I <sub>D</sub> =1.5A V <sub>GS</sub> =10V, R <sub>G</sub> =1Ω	--	6	--	nS
Turn-on Rise Time	t <sub>r</sub>		--	15	--	nS
Turn-off Delay Time	t <sub>d(off)</sub>		--	15	--	nS
Turn-off Fall Time	t <sub>f</sub>		--	10	--	nS
Total Gate Charge	Q <sub>g</sub>	V <sub>DD</sub> =30V, I <sub>D</sub> =3A, V <sub>GS</sub> =4.5V	--	6	--	nC
Gate-Source Charge	Q <sub>gs</sub>		--	1	--	nC
Gate-Drain Charge	Q <sub>gd</sub>		--	1.3	--	nC
<b>Source-Drain Diode Characteristics</b>						
Diode Forward Voltage <sup>Note3</sup>	V <sub>SD</sub>	V <sub>GS</sub> =0V, I <sub>S</sub> =8A	--	--	1.2	V
Diode Forward Current <sup>Note2</sup>	I <sub>S</sub>		--	--	8	A

Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.

2. Surface Mounted on FR4 Board, t ≤ 10 sec.

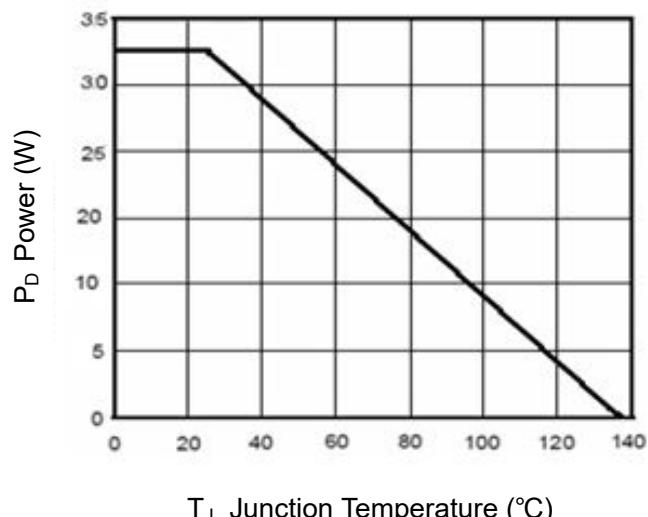
3. Pulse Test: Pulse width≤300μs, duty cycle≤2%



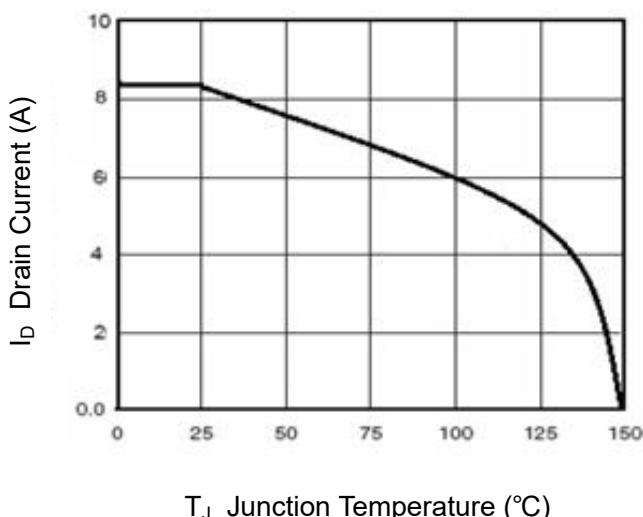
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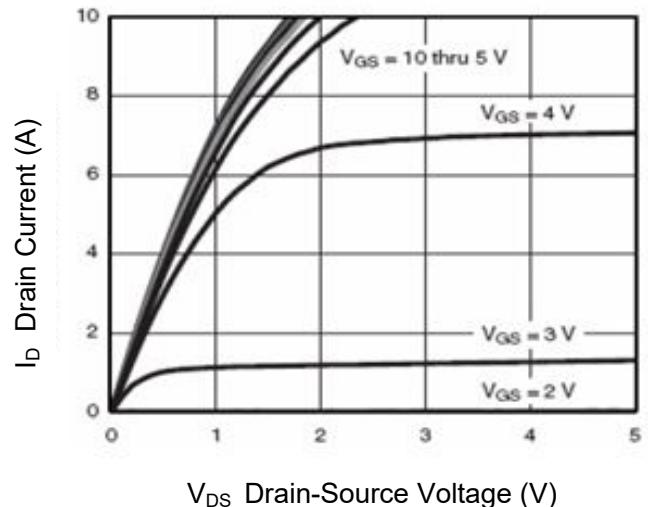
### Typical Characteristic Curves



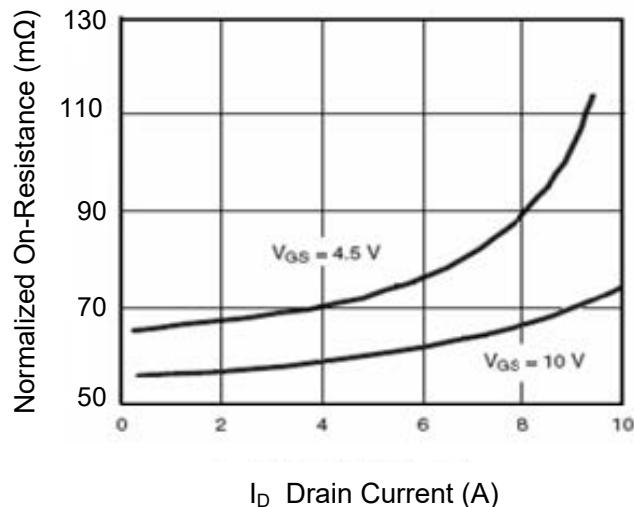
$T_J$  Junction Temperature (°C)



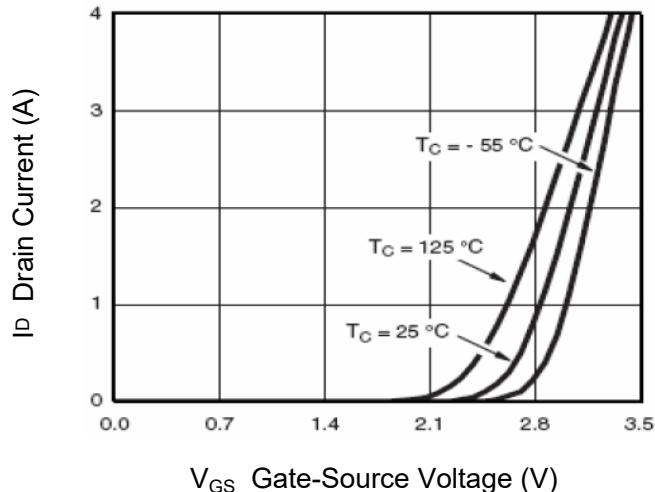
$T_J$  Junction Temperature (°C)



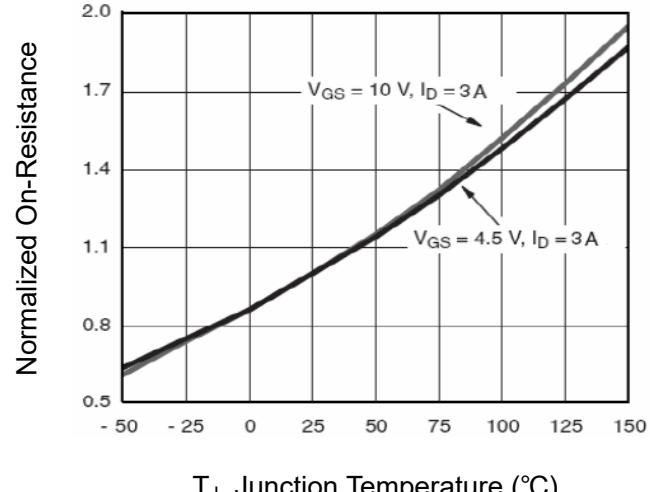
$V_{DS}$  Drain-Source Voltage (V)



$I_D$  Drain Current (A)



$V_{GS}$  Gate-Source Voltage (V)

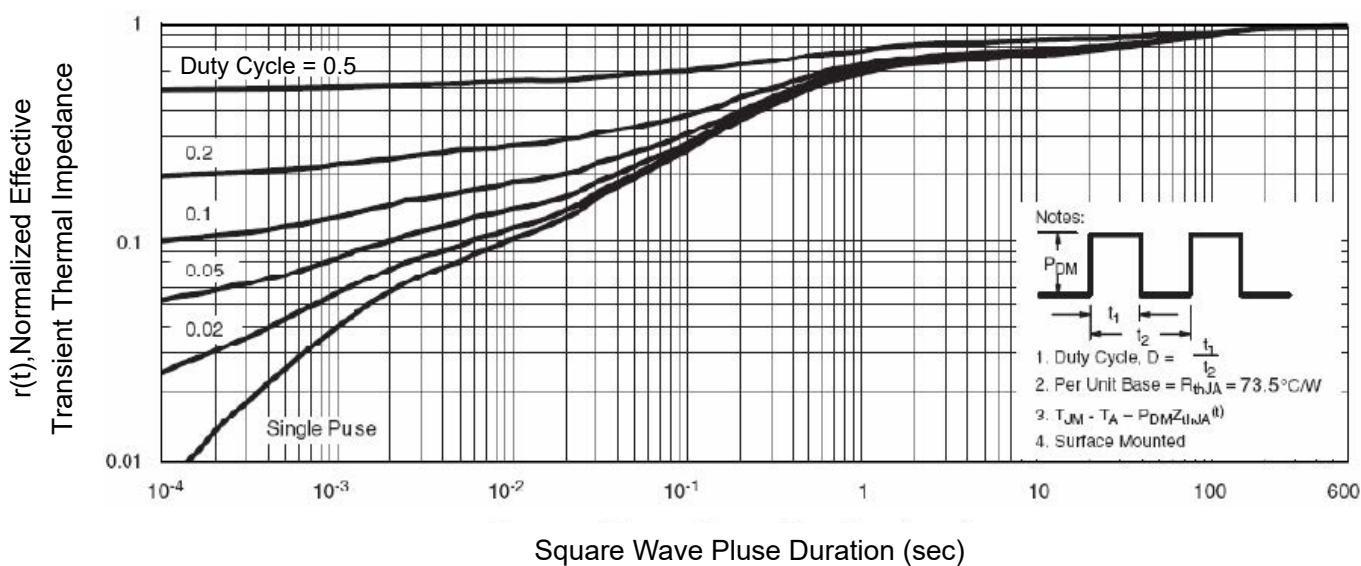
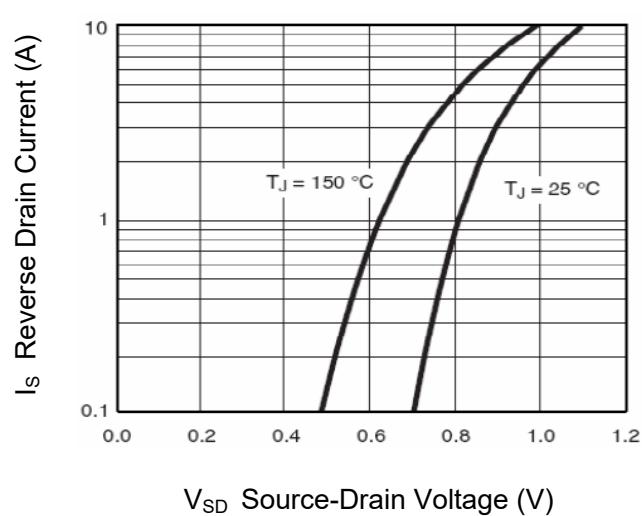
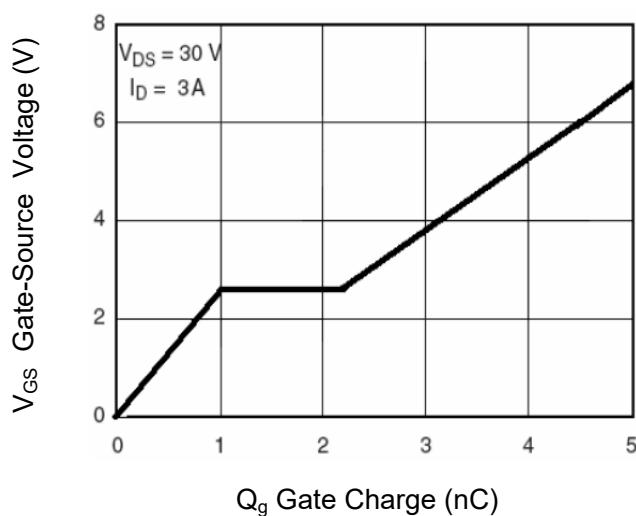
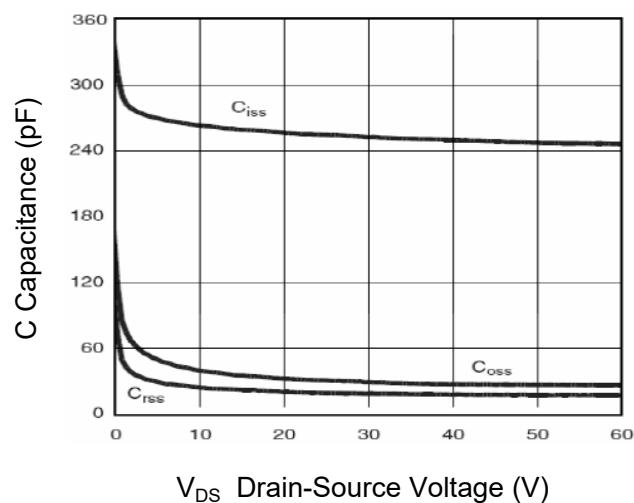
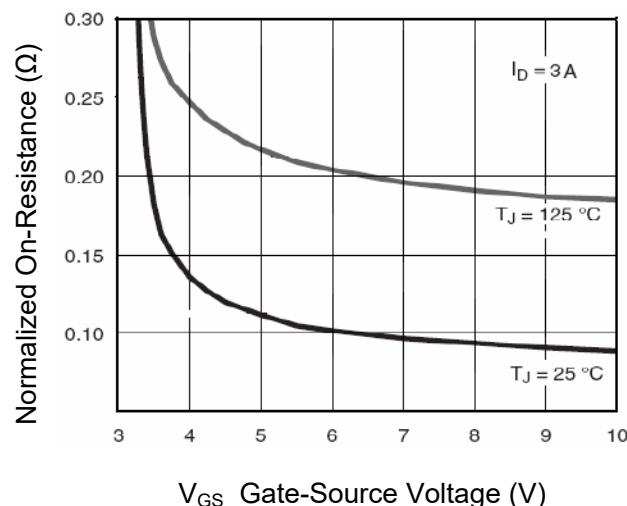


$T_J$  Junction Temperature (°C)



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### Package Outline

TO-252

Dimensions in mm

