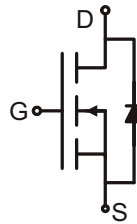


## N-CHANNEL MOSFET in a TO-252 Package.

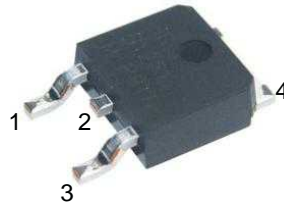
### Description

Low gate charge, low crss, fast switching.

These devices are well suited for high efficiency switching DC/DC converters and switch mode power



Schematic diagram



PIN1: G

PIN 2: D

PIN 3: S

PIN 4: D

TO-252 Pin assignment

### Package Marking and Ordering Information

Package Type	Units					Dimension (unit: mm <sup>3</sup> )		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
TO-252	2,500	2	5,000	5	25,000	13' x16	360x360x50	385x257x392

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# RD5N60

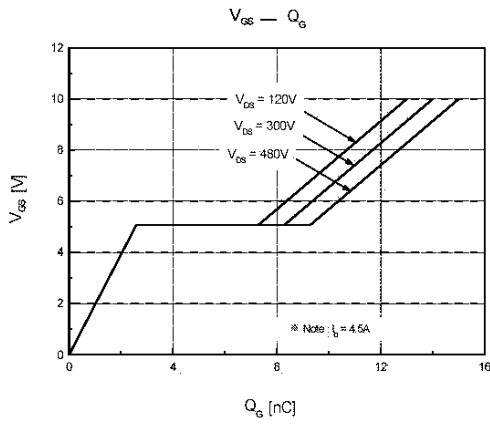
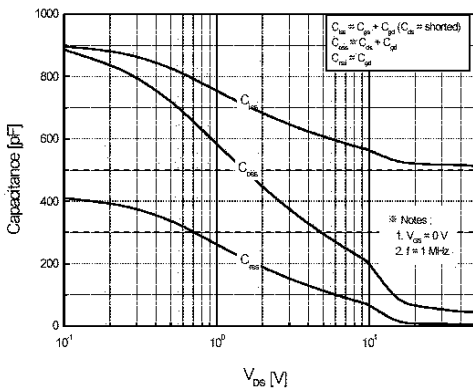
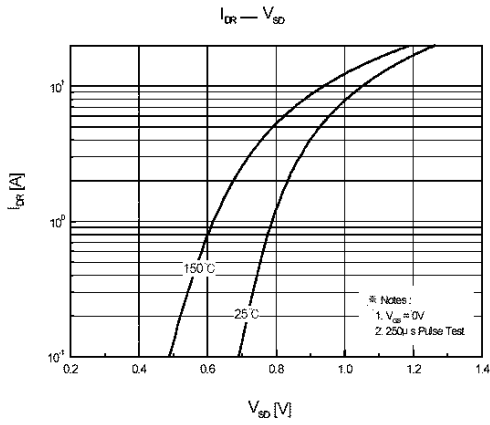
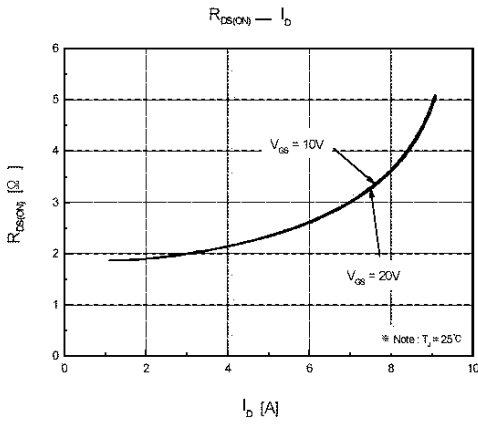
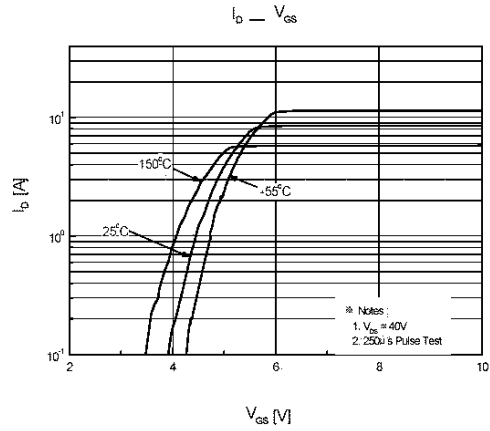
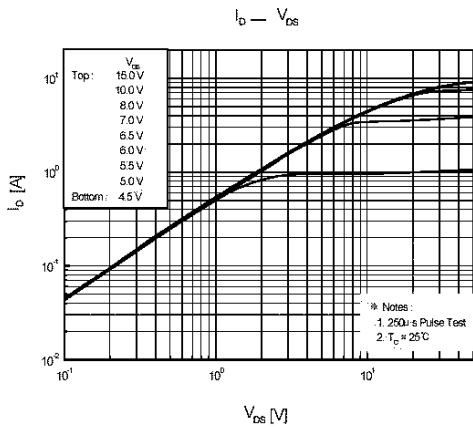
## Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DSS}$	600	V
Drain Current	$I_D(T_C=25^\circ\text{C})$	5.0	A
Drain Current	$I_D(T_C=100^\circ\text{C})$	2.6	A
Drain Current - Pulsed	$I_{DM}$	18	A
Gate-Source Voltage	$V_{GSS}$	$\pm 30$	V
Single Pulsed Avalanche Energy	$E_{AS}$	210	mJ
Repetitive Avalanche Energy	$E_{AR}$	10	mJ
Avalanche Current	$I_{AR}$	4.5	A
Power Dissipation	$P_D(T_C=25^\circ\text{C})$	35	W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to 150	°C

## Electrical Characteristics (Ta=25°C)

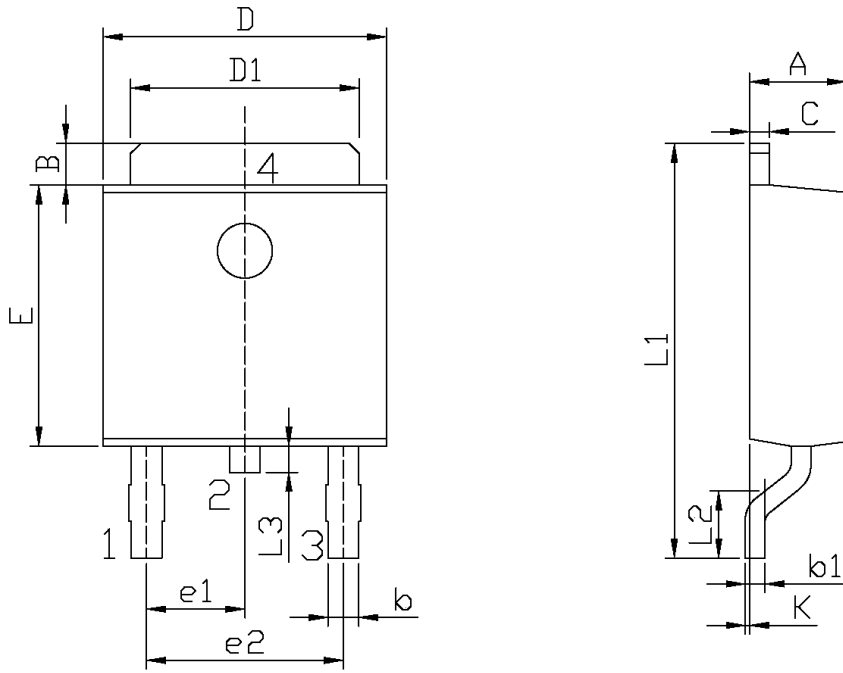
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V$ $I_D=250\mu A$	600			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=600V$ $V_{GS}=0V$			1.0	$\mu A$
		$V_{DS}=480V$ $T_C=125^\circ\text{C}$			10	$\mu A$
Gate-Body Leakage Current Forward	$I_{GSS}$	$V_{GS}=\pm 30V$ $V_{DS}=0V$			$\pm 0.1$	$\mu A$
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	2.0		4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=2.25A$		2.0	2.5	$\Omega$
Forward Transconductance	$g_{FS}$	$V_{DS}=40V$ $I_D=2.25A$		4.7		S
Drain-Source Diode Forward Voltage	$V_{SD}$	$V_{GS}=0V$ $I_S=4.5A$			1.4	V
Input Capacitance	$C_{iss}$	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0\text{MHz}$		515	670	pF
Output Capacitance	$C_{oss}$			55	72	pF
Reverse Transfer Capacitance	$C_{rss}$			6.5	8.5	pF
Turn-On Delay Time	$t_{d(on)}$		$V_{DD}=300V$ $I_D=4.5A$ $R_G=25\Omega$		10	30
Turn-On Rise Time	$t_r$			42	90	ns
Turn-Off Delay Time	$t_{d(off)}$			38	85	ns
Turn-Off Fall Time	$t_f$			46	100	ns

## Electrical Characteristic Curve



# RD5N60

## Package Dimensions



mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	2.20	2.40	E	5.95	6.25
B	0.95	1.25	e1	2.24	2.34
b	0.50	0.70	e2	4.43	4.73
b1	0.45	0.55	L1	9.45	9.95
C	0.45	0.55	L2	1.25	1.75
D	6.45	6.75	L3	0.60	0.90
D1	5.10	5.50	K	0.00	0.10

TO-252

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