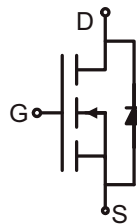


## N-CHANNEL MOSFET in a TO-251 Package.

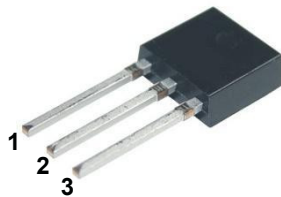
### Description

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

TO-251 Pin assignment

### Package Marking and Ordering Information

Package Type	Units					Dimension (unit mm <sup>3</sup> )		
	Units/Tube	Tubes/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Tube	Inner Box	Outer Box
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180

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# RI2N60

## Absolute Maximum Ratings(Ta=25°C)

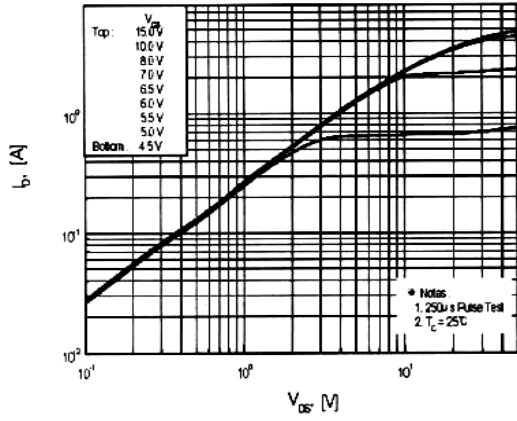
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DSS}$	600	V
Drain Current	$I_D(T_C=25^\circ\text{C})$	2.0	A
Drain Current	$I_D(T_C=100^\circ\text{C})$	1.3	A
Drain Current - Pulsed	$I_{DM}$	6.0	A
Gate-Source Voltage	$V_{GSS}$	$\pm 30$	V
Single Pulsed Avalanche Energy	$E_{AS}$	120	mJ
Repetitive Avalanche Energy	$E_{AR}$	5.4	mJ
Avalanche Current	$I_{AR}$	2.0	A
Power Dissipation	$P_D(T_C=25^\circ\text{C})$	45	W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to 150	°C

## Electrical Characteristics(Ta=25°C)

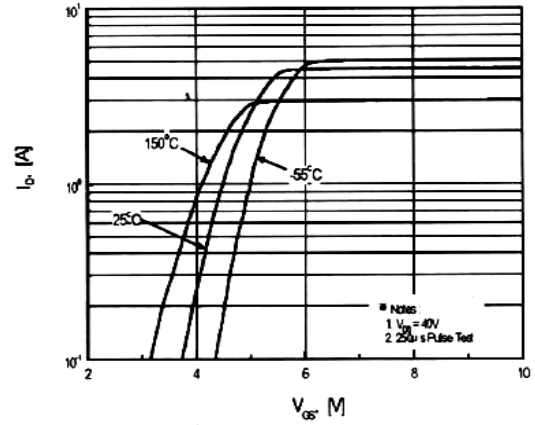
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V$ $I_D=250\mu A$	600			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=600V$ $V_{GS}=0V$			1.0	$\mu A$
		$V_{DS}=480V$ $T_C=125^\circ\text{C}$			100	$\mu A$
Gate-Body Leakage Current, Forward	$I_{GSS}$	$V_{GS}=\pm 30V$ $V_{DS}=0V$			$\pm 0.1$	$\mu A$
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	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=1.0A$		4.0	5.0	$\Omega$
Forward Transconductance	$g_{FS}$	$V_{DS}=40V$ $I_D=1.0A$		2.05		S
Drain-Source Diode Forward Voltage	$V_{SD}$	$V_{GS}=0V$ $I_S=2.0A$			1.4	V
Input Capacitance	$C_{iss}$	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0\text{MHz}$		320	420	pF
Output Capacitance	$C_{oss}$			35	46	pF
Reverse Transfer Capacitance	$C_{rss}$			4.5	6.0	pF
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=300V$ $I_D=2.0A$ $R_G=25\Omega$		8.0	30	ns
Turn-On Rise Time	$t_r$			23	60	ns
Turn-Off Delay Time	$t_{d(off)}$			25	60	ns
Turn-Off Fall Time	$t_f$			28	70	ns

Electrical Characteristic Curve

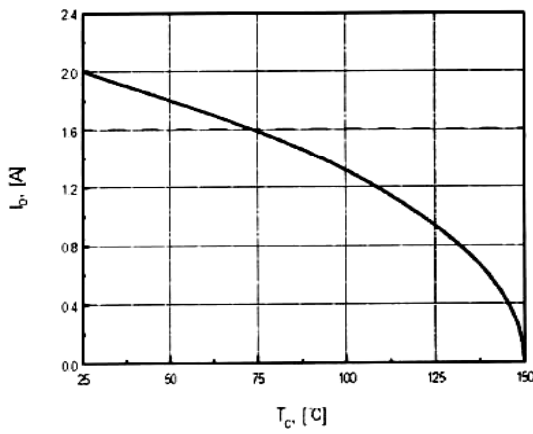
$I_D - V_{DS}$



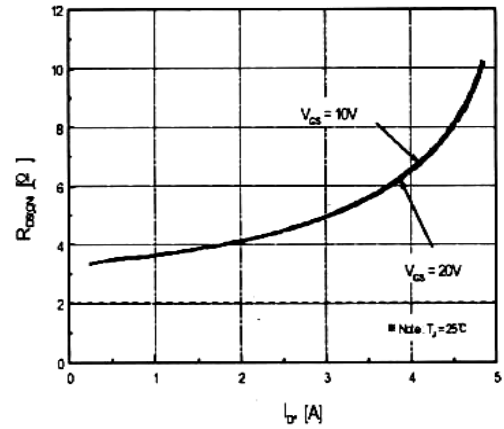
$I_D - V_{GS}$



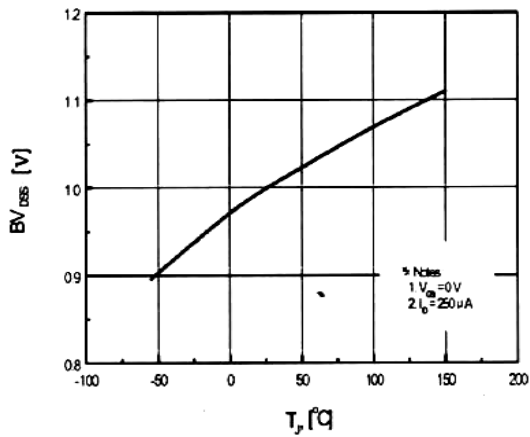
$I_D - T_C$



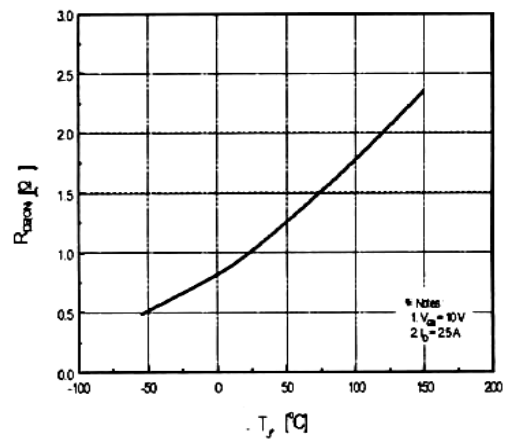
$R_{DS(ON)} - I_D$



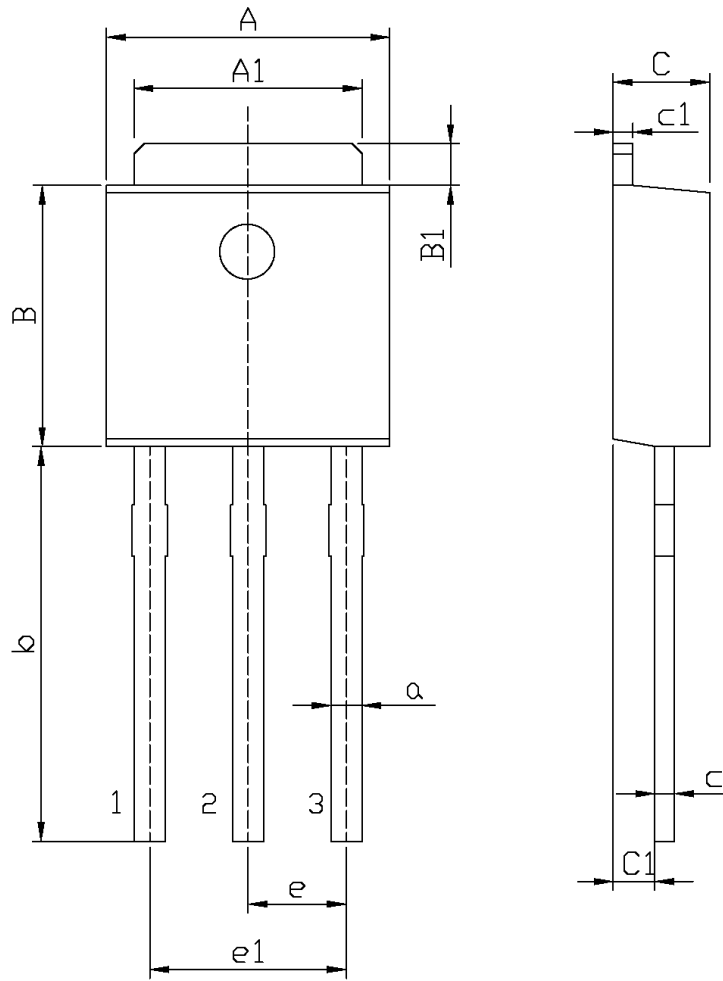
$BV_{DSS} - T_J$



$R_{DS(ON)} - T_J$



Package Dimensions



mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	6.45	6.75	a	0.50	0.70
A1	5.10	5.50	b	9.00	9.40
B	5.95	6.25	c	0.45	0.55
B1	0.95	1.25	c1	0.45	0.55
C	2.20	2.40	e	2.24	2.34
C1	0.95	1.15	e1	4.43	4.73

TO-251

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