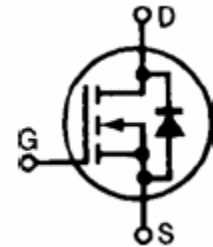
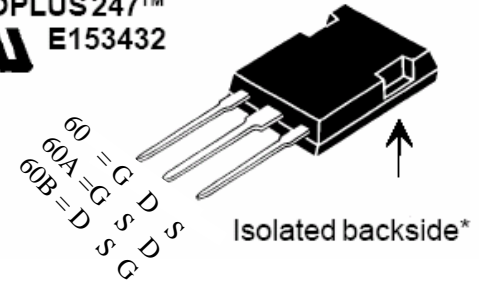


N-Channel Enhancement Mode Switch Mode RF MOSFET
 Low Capacitance Z-MOS™ MOSFET Process
 Optimized for RF Operation
 Ideal for Class C, D, & E Applications

$V_{DSS} = 600 \text{ V}$
 $I_{D25} = 18.0 \text{ A}$
 $R_{DS(on)} = 0.44 \Omega$
 $P_{DC} = \text{TBD}$

Symbol	Test Conditions	Maximum Ratings	
V_{DSS}	$T_J = 25^\circ\text{C to } 150^\circ\text{C}$	600	V
V_{DGR}	$T_J = 25^\circ\text{C to } 150^\circ\text{C}; R_{GS} = 1 \text{ M}\Omega$	600	V
V_{GS}	Continuous	± 20	V
V_{GSM}	Transient	± 30	V
I_{D25}	$T_c = 25^\circ\text{C}$	18	A
I_{DM}	$T_c = 25^\circ\text{C}$, pulse width limited by T_{JM}	90	A
I_{AR}	$T_c = 25^\circ\text{C}$	18	A
E_{AR}	$T_c = 25^\circ\text{C}$	TBD	mJ
dv/dt	$I_S \leq I_{DM}$, $di/dt \leq 100 \text{ A}/\mu\text{s}$, $V_{DD} \leq V_{DSS}$, $T_J \leq 150^\circ\text{C}$, $R_G = 0.2 \Omega$	5	V/ns
	$I_S = 0$	>200	V/ns
P_{DC}		TBD	W
P_{DHS}	$T_c = 25^\circ\text{C}$, Derate $4.4 \text{ W}/^\circ\text{C}$ above 25°C	TBD	W
P_{DAMB}	$T_c = 25^\circ\text{C}$	3.0	W
R_{thJC}		TBD	$^\circ\text{C}/\text{W}$
R_{thJHS}		TBD	$^\circ\text{C}/\text{W}$

ISOPLUS 247™
 E153432



Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$ unless otherwise specified)		
		min.	typ.	max.
V_{DSS}	$V_{GS} = 0 \text{ V}$, $I_D = 4 \text{ ma}$	600		V
$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 250 \mu\text{A}$	3.5	4.25	V
I_{GSS}	$V_{GS} = \pm 20 V_{DC}$, $V_{DS} = 0$			$\pm 100 \text{ nA}$
I_{DSS}	$V_{DS} = 0.8 V_{DSS}$, $T_J = 25^\circ\text{C}$ $V_{GS} = 0$, $T_J = 125^\circ\text{C}$			50 μA
				1 mA
$R_{DS(on)}$	$V_{GS} = 20 \text{ V}$, $I_D = 0.5 I_{D25}$ Pulse test, $t \leq 300 \mu\text{s}$, duty cycle $d \leq 2\%$		0.437	Ω
g_{fs}	$V_{DS} = 50 \text{ V}$, $I_D = 0.5 I_{D25}$, pulse test		15.2	S
T_J		-55		$^\circ\text{C}$
T_{JM}			175	$^\circ\text{C}$
T_{stg}		-55		$^\circ\text{C}$
T_L	1.6mm(0.063 in) from case for 10 s		300	$^\circ\text{C}$
Weight			3.5	g

Features

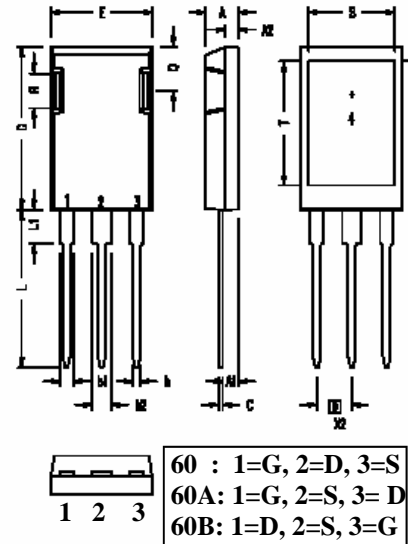
- Isolated Substrate
 - high isolation voltage (>2500V)
 - excellent thermal transfer
 - Increased temperature and power cycling capability
- IXYS advanced Z-MOS process
- Low gate charge and capacitances
 - easier to drive
 - faster switching
- Low $R_{DS(on)}$
- Very low insertion inductance (<2nH)
- No beryllium oxide (BeO) or other hazardous materials

Advantages

- High Performance RF Z-MOS™
- Optimized for RF and high speed
- Common Source RF Package
 - A = Gate Source Drain
 - B = Drain Source Gate
- Isolated Package, no insulator required

PRELIMINARY

Symbol	Test Conditions	Characteristic Values		
		min.	typ.	max.
R_G				1 Ω
C_{iss}			1930	pF
C_{oss}	$V_{GS} = 0\text{ V}, V_{DS} = 0.8 V_{DSS(max)}, f = 1\text{ MHz}$		125	pF
C_{rss}			17.8	pF
C_{stray}	Back Metal to any Pin		33	pF
$T_{d(on)}$			4	ns
T_{on}	$V_{GS} = 15\text{ V}, V_{DS} = 0.8 V_{DSS}, I_D = 0.5 I_{DM}$		4	ns
$T_{d(off)}$	$R_G = 1\ \Omega$ (External)		4	ns
T_{off}			6	ns

ISOPLUS 247 OUTLINE


Symbol	Test Conditions	Characteristic Values		
		min.	typ.	max.
I_S	$V_{GS} = 0\text{ V}$			18 A
I_{SM}	Repetitive; pulse width limited by T_{JM}			108 A
V_{SD}	$I_F = I_S, V_{GS} = 0\text{ V}, \text{Pulse test, } t \leq 300\ \mu\text{s}, \text{duty cycle } \leq 2\%$			1.5 V
T_{rr}			TBD	ns

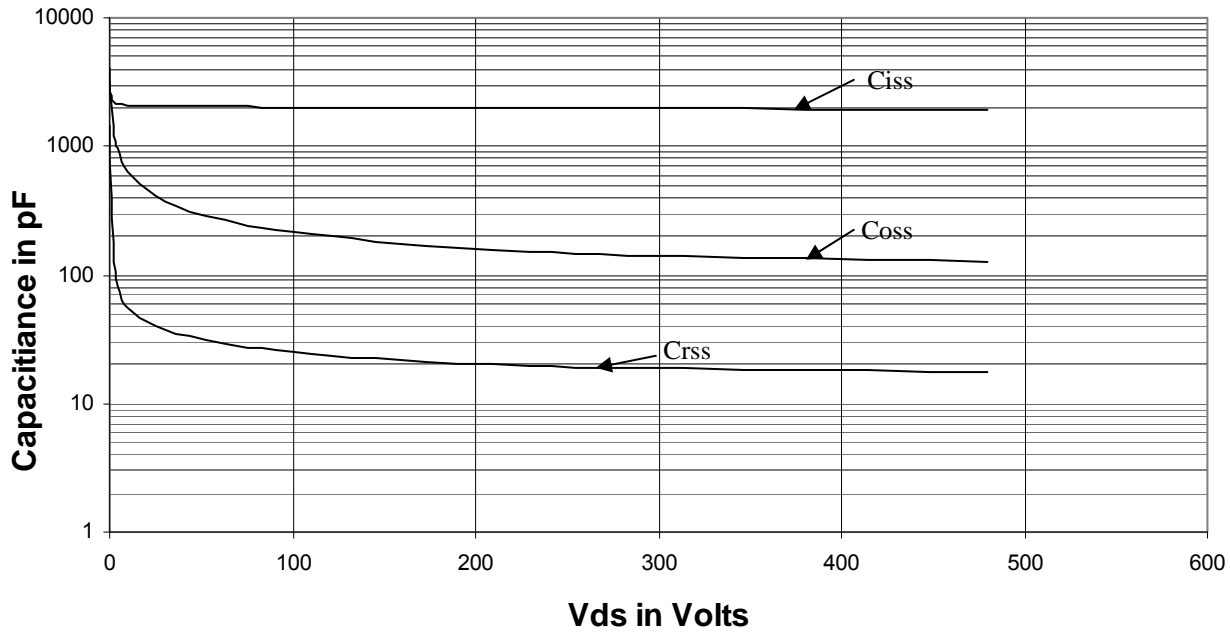
Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.83	5.21	.190	.205
A ₁	2.29	2.54	.090	.100
A ₂	1.91	2.16	.075	.085
b	1.14	1.40	.045	.055
b ₁	1.91	2.13	.075	.084
b ₂	2.92	3.12	.115	.123
C	0.61	0.80	.024	.031
D	20.80	21.34	.819	.840
E	15.75	16.13	.620	.635
e	5.45 BSC		.215 BSC	
L	19.81	20.32	.780	.800
L1	3.81	4.32	.150	.170
Q	5.59	6.20	.220	.244
R	4.32	4.83	.170	.190

PRELIMINARY

IXYS RF reserves the right to change limits, test conditions and dimensions.

IXYS RF MOSFETS are covered by one or more of the following U.S. patents:

4,835,592	4,860,072	4,881,106	4,891,686	4,931,844	5,017,508
5,034,796	5,049,961	5,063,307	5,187,117	5,237,481	5,486,715
5,381,025	5,640,045	6,404,065	6,583,505	6,710,463	6,727,585
6,731,002					



IXZ316N60 Capacitances verses Vds

PRELIMINARY

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