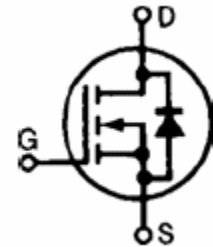
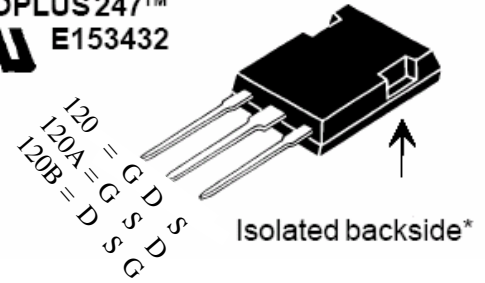


N-Channel Enhancement Mode Switch Mode RF MOSFET
 Low Capacitance Z-MOS™ MOSFET Process
 Optimized for RF Operation
 Ideal for Class C, D, & E Applications

V_{DSS} = **1200 V**
I_{D25} = **8.0 A**
R_{DS(on)} = **2.1 Ω**
P_{DC} = **TBD W**

Symbol	Test Conditions	Maximum Ratings
V_{DSS}	T _J = 25°C to 150°C	1200 V
V_{DGR}	T _J = 25°C to 150°C; R _{GS} = 1 MΩ	1200 V
V_{GS}	Continuous	±20 V
V_{GSM}	Transient	±30 V
I_{D25}	T _c = 25°C	8 A
I_{DM}	T _c = 25°C, pulse width limited by T _{JM}	40 A
I_{AR}	T _c = 25°C	8 A
E_{AR}	T _c = 25°C	TBD mJ
dv/dt	I _S ≤ I _{DM} , di/dt ≤ 100A/μs, V _{DD} ≤ V _{DSS} , T _J ≤ 150°C, R _G = 0.2Ω	5 V/ns
	I _S = 0	>200 V/ns
P_{DC}		TBD W
P_{DHS}	T _c = 25°C, Derate 4.4W/°C above 25°C	TBD W
P_{DAMB}	T _c = 25°C	3.0 W
R_{thJC}		TBD C/W
R_{thJHS}		TBD C/W

ISOPLUS 247™
E153432



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

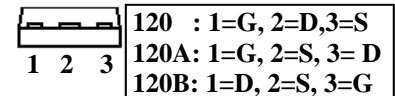
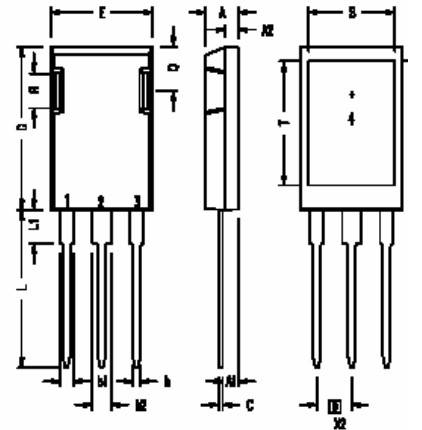
- High Performance RF Z-MOS™
- Optimized for RF and high speed
- Common Source RF Package
 - A = Gate Source Drain
 - B = Drain Source Gate
- Easy to mount—no insulators needed

		min.	typ.	max.	
V_{DSS}	V _{GS} = 0 V, I _D = 4 ma	1200			V
V_{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	3.5		6.5	V
I_{GSS}	V _{GS} = ±20 V _{DC} , V _{DS} = 0			±100	nA
I_{DSS}	V _{DS} = 0.8V _{DSS} V _{GS} =0	T _J = 25C		50	μA
			T _J = 125C		1
R_{DS(on)}	V _{GS} = 20 V, I _D = 0.5I _{D25} Pulse test, t ≤ 300μS, duty cycle d ≤ 2%		2.1		Ω
g_{fs}	V _{DS} = 50 V, I _D = 0.5I _{D25} , pulse test		10.1		S
T_J		-55		+175	°C
T_{JM}			175		°C
T_{stg}		-55		+ 175	°C
T_L	1.6mm(0.063 in) from case for 10 s		300		°C
Weight			3.5		g

PRELIMINARY

Symbol	Test Conditions	Characteristic Values		
		min.	typ.	max.
R_G				1 Ω
C_{iss}			1960	pF
C_{oss}	$V_{GS} = 0\text{ V}, V_{DS} = 0.8 V_{DSS(max)}, f = 1\text{ MHz}$		59	pF
C_{rss}			9.2	pF
C_{stray}	Back Metal to any Pin		33	pF
$T_{d(on)}$			4	ns
T_{on}	$V_{GS} = 15\text{ V}, V_{DS} = 0.8 V_{DSS}, I_D = 0.5 I_{DM}$		5	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	$V_{GS} = 0\text{ V}$			8 A
I_{SM}	Repetitive; pulse width limited by T_{JM}			48 A
V_{SD}	$I_F = I_S, V_{GS} = 0\text{ V}$, Pulse test, $t \leq 300\ \mu\text{s}$, duty cycle $\leq 2\%$			1.5 V
T_{rr}			TBD	ns

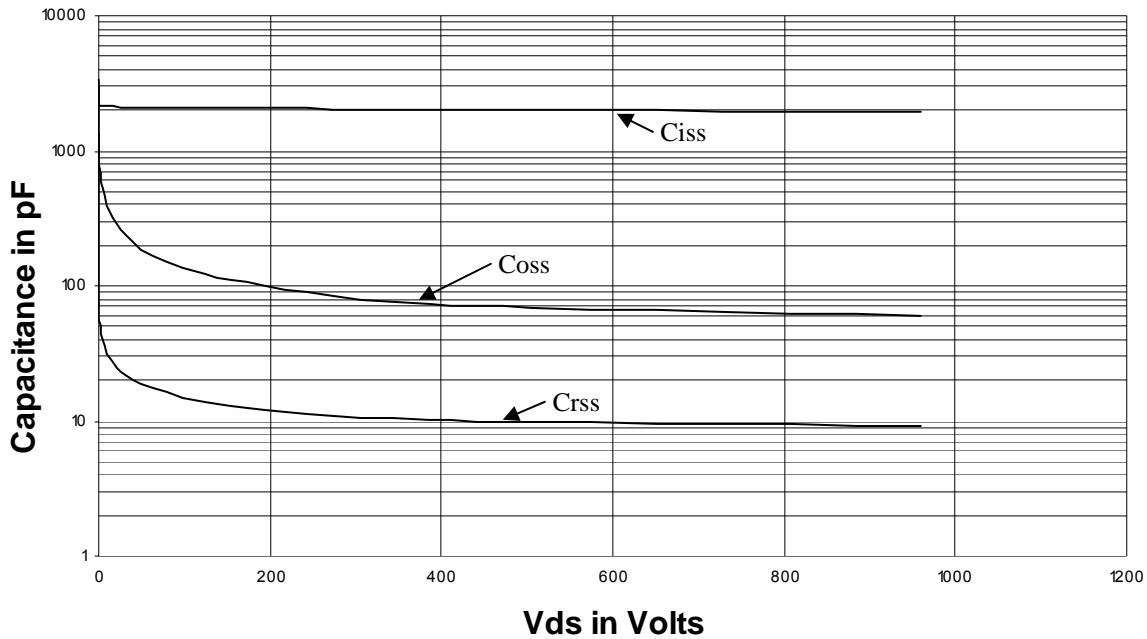
Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.83	5.21	.190	.205
A ₁	2.29	2.54	.090	.100
A ₂	1.91	2.16	.075	.085
b	1.14	1.40	.045	.055
b ₁	1.91	2.13	.075	.084
b ₂	2.92	3.12	.115	.123
C	0.61	0.80	.024	.031
D	20.80	21.34	.819	.840
E	15.75	16.13	.620	.635
e	5.45 BSC		.215 BSC	
L	19.81	20.32	.780	.800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

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 4,850,072 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

PRELIMINARY



IXZ308N120 Capacitances verses Vds

PRELIMINARY

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