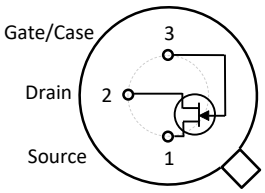
IFN5432, IFN5433, IFN5434 N-Channel JFET

Features

- InterFET N0903L Geometry
- Low Noise: 0.7 nV/√Hz Typical
- High Gain: 200mS Typical
- Low Rds(on): 5 Ohms Max (IFN5432)
- RoHS Compliant
- SMT, TH, and Bare Die Package options.

TO-52 Bottom View



Applications

- Low On Resistance Switches
- Choppers

Description

The -25V InterFET IFN5432, IFN5433, and IFN5434 are targeted for Low resistance switches and choppers. The TO-52 package is hermetically sealed and suitable for military applications.

Product Summary

Parameters		IFN5432 Min	IFN5433 Min	IFN5434 Min	Unit
BV_{GSS}	Gate to Source Breakdown Voltage	-25	-25	-25	V
I_{DSS}	Drain to Source Saturation Current	150	100	30	mA
$V_{GS(off)}$	Gate to Source Cutoff Voltage	-4	-3	-1	V

Ordering Information Custom Part and Binning Options Available

Part Number	Description	Case	Packaging
IFN5432; IFN5433; IFN5434	Through-Hole	TO-52	Bulk
IFN5432COT; IFN5433COT IFN5343COT	Chip Orientated Tray (COT Waffle Pack)	COT	400/Waffle Pack
IFN5432CFT; IFN5433CFT IFN5434CFT	Chip Face-up Tray (CFT Waffle Pack)	CFT	400/Waffle Pack

Electrical Characteristics

Maximum Ratings (@ T_A = 25°C, Unless otherwise specified)

Parameters		Value	Unit
V_{RGS}	Reverse Gate Source and Gate Drain Voltage	-25	V
I_{FG}	Continuous Forward Gate Current	100	mA
P_D	Continuous Device Power Dissipation	300	mW
P	Power Derating	2.4	mW/°C
T_J	Operating Junction Temperature	-55 to 125	°C
T_{STG}	Storage Temperature	-65 to 150	°C

Static Characteristics (@ TA = 25°C, Unless otherwise specified)

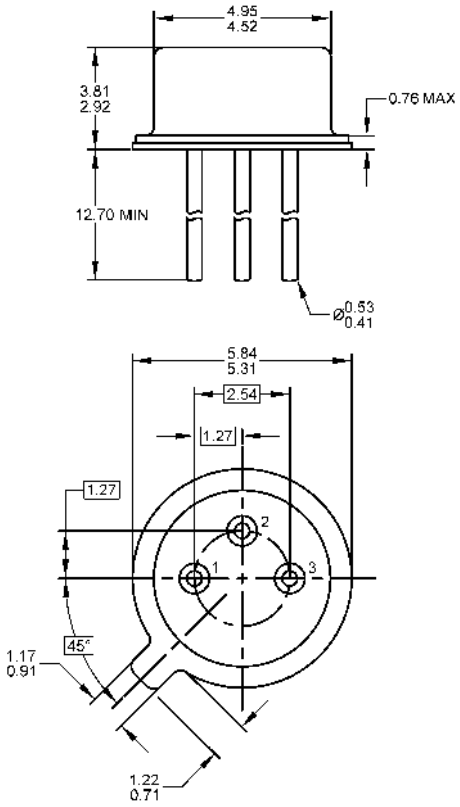
Parameters		Conditions	IFN5432		IFN5433		IFN5434		Unit
			Min	Max	Min	Max	Min	Max	
$V_{(BR)GSS}$	Gate to Source Breakdown Voltage	V_{DS} = 0V, I_G = -1µA	-25		-25		-25		V
I_{GSS}	Gate to Source Reverse Current	V_{DS} = -15V, V_{GS} = 0V, T_A = 25°C V_{DS} = -15V, V_{GS} = 0V, T_A = 150°C		-200 -200		-200 -200		-200 -200	pA nA
$V_{GS(OFF)}$	Gate to Source Cutoff Voltage	V_{DS} = 5V, I_D = 3nA	-4	-10	-3	-9	-1	-4	V
I_{DSS}	Drain to Source Saturation Current	V_{GS} = 0V, V_{DS} = 15V (Pulsed)	150		100		30		mA
$I_{D(OFF)}$	Drain Cutoff Current	V_{DS} = 5V, V_{GS} = -10V, T_A = 25°C V_{DS} = 5V, V_{GS} = -10V, T_A = 150°C		200 200		200 200		200 200	pA nA
$V_{DS(ON)}$	Drain to Source ON Voltage	V_{GS} = 0V, I_D = 10mA		50		70		100	mV
$R_{DS(ON)}$	Static Drain to Source ON Resistance	V_{GS} = 0V, I_D = 10mA	2	5		7		10	Ω

Dynamic Characteristics (@ TA = 25°C, Unless otherwise specified)

Parameters		Conditions	IFN5432		IFN5433		IFN5434		Unit
			Min	Max	Min	Max	Min	Max	
$R_{DS(ON)}$	Drain to Source ON Resistance	V_{GS} = 0V, I_D = 0A, f = 1kHz		5		7		10	Ω
C_{iss}	Input Capacitance	V_{DS} = 0V, V_{GS} = -10V, f = 1MHz		60		60		60	pF
C_{rss}	Reverse Transfer Capacitance	V_{DS} = 0V, V_{GS} = -10V, f = 1MHz		20		20		20	pF
$t_{d(ON)}$	Turn-On Delay Time	V_{DD} = 1.5V, $V_{GS(ON)}$ = 0V, $V_{GS(OFF)}$ = -12V, $I_{D(ON)}$ = 10mA		4		4		4	ns
t_r	Rise Time			1		1		1	ns
$t_{d(OFF)}$	Turn-Off Delay Time			6		6		6	ns
t_f	Fall Time			30		30		30	ns

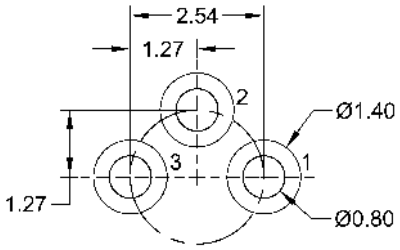
TO-52 Mechanical and Layout Data

Package Outline Data



1. All linear dimensions are in millimeters.
2. Package weight approximately 0.26 grams
3. Bulk product is shipped in standard ESD shipping material
4. Refer to JEDEC standards for additional information.

Suggested Through-Hole Layout



1. All linear dimensions are in millimeters.
2. The suggested land pattern dimensions have been provided as a straight lead reference only. A more robust pattern may be desired for wave soldering and/or bent lead configurations.