

- InP HEMT Technology
- Lowest Noise Figure
- Wideband LNA, PA

The H2-50 is a 50 μm gate width InP HEMT transistor from HRL Laboratories 100 nm H2 process with a typical cutoff frequency (f_T) of 180 GHz. This unpackaged transistor can provide the low noise figure performance for high levels of packaging integration.

Table I Specified Performance at $T_A=25^\circ\text{C}$

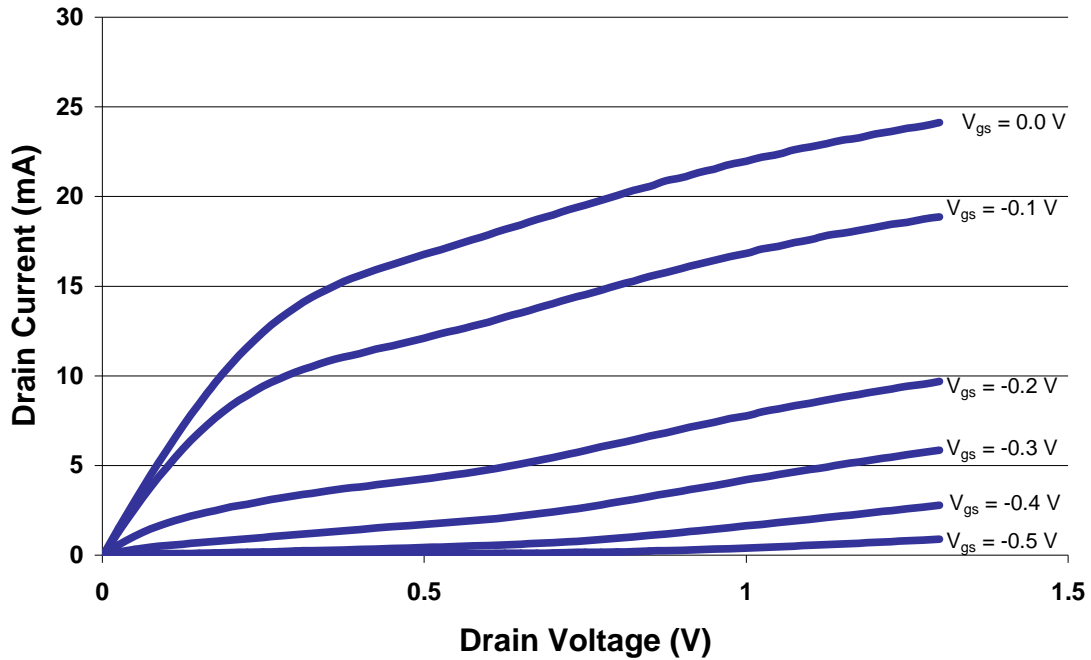
Parameter	Units	Bias	Min	Typ	Max
Maximum Transconductance ($g_{m,max}$)	mS	$V_{ds} = 1.0\text{ V}$	30	40	
Short Circuit Drain Current (I_{dss})	mA	$V_{ds} = 1.0\text{ V}$ $V_{gs} = 0.0$	10	15	
Pinch Off Voltage (V_{po})	V	$V_{ds} = 1.0\text{ V}$	-1	-0.4	0
Gate Leakage ($I_{g, min}$)	μA	$V_{ds} = 0.0\text{ V}$ $V_{gs} = -1.0$		15	20

Table II Maximum Ratings at $T_A=25^\circ\text{C}$

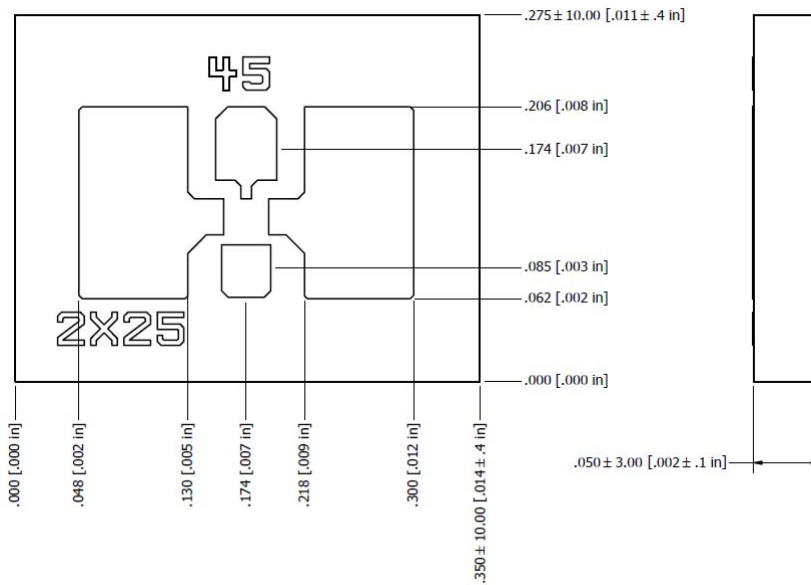
Symbol	Parameter	Value	Note
V_{DS}	Drain to Source Voltage	2.0 V	
V_{GD}	Gate to Drain Voltage	-3.0 to 0.2 VDC	
V_{GS}	Gate to Source Voltage	-1.0 to 0.2 VDC	
T_M	Die Attach Temperature	290° C	30 Seconds maximum

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Typical DC IV Performance at $T_A=25^\circ\text{C}$



Outline Drawing



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