

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

The H3-50 is a 50  $\mu\text{m}$  gate width InP HEMT transistor for HRL Laboratories 60 nm with a typical cutoff frequency ( $f_T$ ) of 450 GHz. This unpackaged transistor can provide the low noise figure performance for high levels of packaging integration.

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

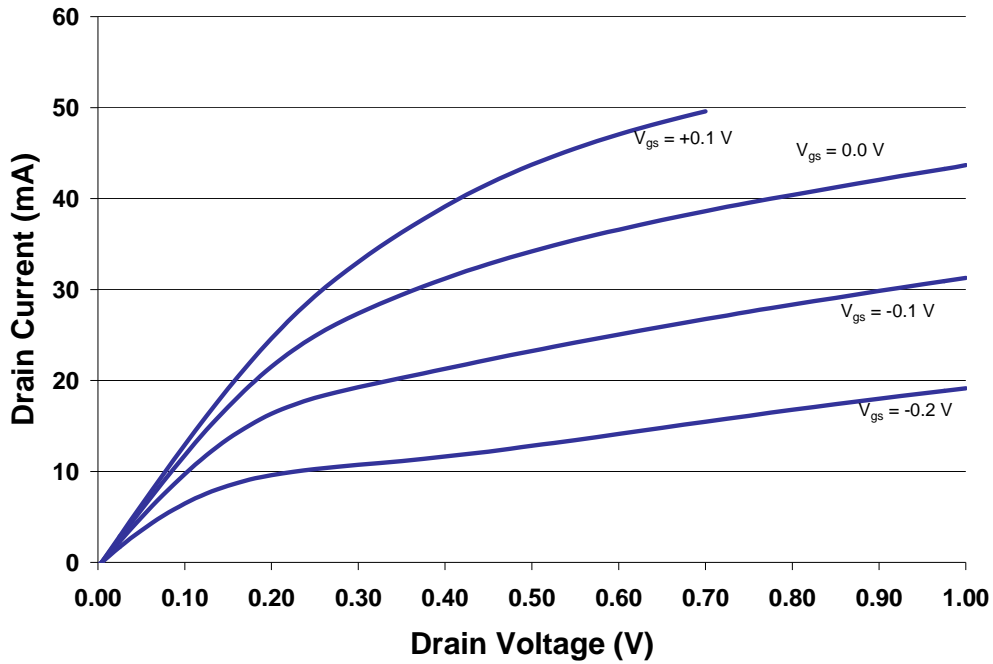
Parameter	Units	Bias	Min	Typ	Max
Maximum Transconductance ( $g_{m,max}$ )	mS	$V_{ds} = 0.6\text{ V}$	70	80	
Maximum Drain Current ( $I_{dmax}$ )	mA	$V_{ds} = 0.6\text{ V}$	35	45	
Pinch Off Voltage ( $V_{po}$ )	V	$V_{ds} = 0.6\text{ V}$	-1	-0.5	0
Gate Leakage ( $I_{g, min}$ )	$\mu\text{A}$	$V_{ds} = 0.0\text{ V}$ $V_{gs} = -0.5$		15	20

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

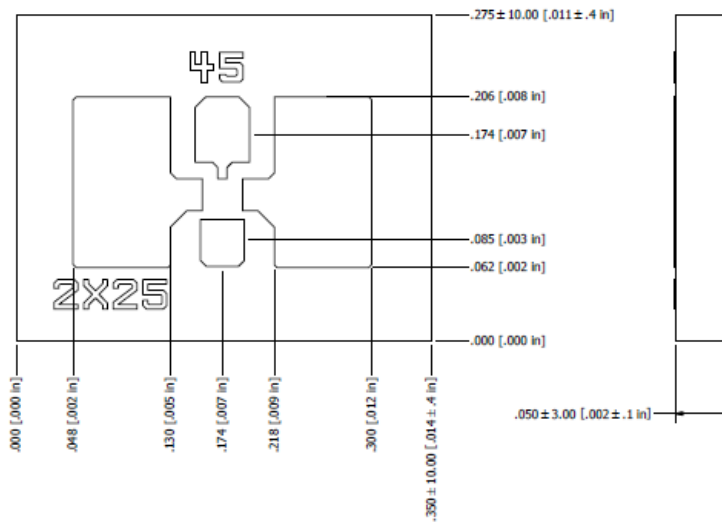
Symbol	Parameter	Value	Note
$V_{DS}$	Drain to Source Voltage	0.0 to 1.0 V	
$V_{GD}$	Gate to Drain Voltage	-1.0 to 0.4 VDC	
$V_{GS}$	Gate to Source Voltage	-1.0 to 0.4 VDC	
$T_M$	Die Attach Temperature	200° C	30 Seconds maximum

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



### Outline Drawing



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