

## N-Channel Enhancement Mode MOSFET

### 1. Product Information

#### 1.1 Features

- Low  $C_{rss}$
- Low gate charge

#### 1.2 Applications

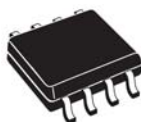
- Portable appliances
- Low power DC to DC Converter

#### 1.3 Quick reference

- $BV \geq 650\text{ V}$
- $R_{DS(ON)} \leq 8\ \Omega @ V_{GS} = 10\text{ V}$
- $P_{tot} \leq 2\text{ W}$
- $I_D \leq 0.4\text{ A}$

### 2. Pin Description

Pin	Description	Simplified Outline	Symbol
1	Gate(G1)	<p style="text-align: center;">Top View SOP8</p>	
2	Source(S1)		
3	Gate(G2)		
4	Source(S2)		
5,6	Drain(D2)		
7,8	Drain(D1)		



### 3. Limiting Values

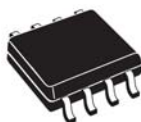
Symbol	Parameter	Conditions	Min	Max	Unit
$V_{DS}$	Drain-Source Voltage	$T_C = 25\text{ }^\circ\text{C}$		650	V
$V_{GS}$	Gate-Source Voltage	$T_C = 25\text{ }^\circ\text{C}$		$\pm 30$	V
$I_D$	Drain Current (DC)	$T_C = 25\text{ }^\circ\text{C}, V_{GS} = 10\text{ V}$		0.4	A
		$T_C = 100\text{ }^\circ\text{C}, V_{GS} = 10\text{ V}$		0.26	A
$I_{DM}^*$	Drain Current (Pulsed) *	$T_C = 25\text{ }^\circ\text{C}, V_{GS} = 10\text{ V}$		1.6	A
$P_{tot}$	Drain power dissipation	$T_C = 25\text{ }^\circ\text{C}$		2	W
$I_{AS}$	Avalanche current (Single)	$L = 300\text{ }\mu\text{H}, I_{AS} = 0.34\text{ A},$ $V_{DD} = 50\text{ V}, R_G = 25\text{ }\Omega$		0.4	A
$E_{AS}$	Single pulsed avalanche energy			24	$\mu\text{J}$
$T_{stg}$	Storage Temperature		-55	150	$^\circ\text{C}$
$T_J$	Junction Temperature			150	$^\circ\text{C}$
$I_S$	Continuous-Source Current	$T_C = 25\text{ }^\circ\text{C}$		0.4	A
$I_{SM}$	Pulsed-Source current			1.6	
$R_{\theta JA}$	Thermal Resistance- Junction to Ambient			62.5	$^\circ\text{C/W}$

Notes :

\* Pulse width  $\leq 300\text{ }\mu\text{s}$ , duty cycle  $\leq 2\%$

### 4. Marking Information

Product Name	Marking
iH0265T	<div style="background-color: black; color: white; padding: 2px; display: inline-block;"> <b>iH0265T</b>  <b>XXXXX</b> </div> X : Date Code



## 5. Electrical Characteristics (T<sub>A</sub>=25 °C Unless Otherwise Noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>Static Characteristics</b>						
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> = 0 V, I <sub>DS</sub> = 250 μA	650			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>DS</sub> = 250 μA	2.0		4.0	V
I <sub>DSS</sub>	Drain Leakage Current	V <sub>DS</sub> = 650 V, V <sub>GS</sub> = 0 V			1	μA
I <sub>GSS</sub>	Gate Leakage Current	V <sub>GS</sub> = 0 V, V <sub>GS</sub> = ± 30 V			±100	nA
R <sub>DS(ON)</sub> <sup>a</sup>	On-State Resistance	V <sub>GS</sub> = 10 V, I <sub>DS</sub> = 0.4 A		6.5	8	Ω
g <sub>fs</sub>	Forward transfer conductance	V <sub>GS</sub> = 10 V, I <sub>DS</sub> = 0.4 A		0.95		S
<b>Diode Characteristics</b>						
V <sub>SD</sub> <sup>a</sup>	Diode Forward Voltage	I <sub>SD</sub> = 0.4A, V <sub>GS</sub> = 0 V			1.4	V
t <sub>rr</sub>	Reverse Recovery Time	I <sub>SD</sub> = 0.4A, V <sub>GS</sub> = 0 V dI <sub>SD</sub> /dt = 100 A/μs				ns
Q <sub>rr</sub>	Reverse Recovery Charge					uC
<b>Dynamic Characteristics<sup>b</sup></b>						
C <sub>iss</sub>	Input Capacitance	V <sub>GS</sub> = 0 V, V <sub>DS</sub> = 25 V Frequency = 1 MHz				pF
C <sub>oss</sub>	Output Capacitance					
C <sub>riss</sub>	Reverse Transfer Capacitance					
t <sub>d(on)</sub>	Turn-on Delay Time	V <sub>DD</sub> = 300 V, V <sub>GS</sub> = 10 V I <sub>D</sub> = 0.34 A, R <sub>G</sub> = 25 Ω				ns
t <sub>r</sub>	Turn-on Rise Time					
t <sub>d(off)</sub>	Turn-off Delay Time					
t <sub>f</sub>	Turn-off Fall Time					
<b>Charge Characteristics</b>						
Q <sub>g</sub>	Total Gate Charge	V <sub>DS</sub> = 300 V, V <sub>GS</sub> = 10 V, I <sub>D</sub> = 0.34 A				nC
Q <sub>gs</sub>	Gate-Source Charge					
Q <sub>gd</sub>	Gate-Drain Charge					

Notes :

a : Pulse test ; pulse width ≤ 300 μs, duty cycle ≤ 2%

b : Guaranteed by design, not subject to production testing