

1. Product Information

1.1 Features

- Advanced trench cell design
- Low Thermal Resistance

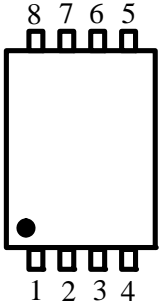
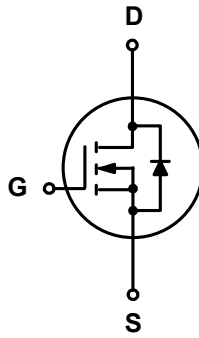
1.2 Applications

- Motor drivers
- DC - DC Converter

1.3 Quick reference

- $BV \geq 30\text{ V}$
- $R_{DS(ON)} \leq 0.6\text{ m}\Omega @ V_{GS} = 10\text{ V}$
- $P_{tot} \leq 227\text{ W}$
- $R_{DS(ON)} \leq 0.95\text{ m}\Omega @ V_{GS} = 4.5\text{ V}$
- $I_D \leq 502\text{ A}$

2. Pin Description

Pin	Description	Simplified Outline	Symbol
1,2,3	Source		
4	Gate		
5,6,7,8	Drain		
		Top View PDFN-8 (5x6)	

3. Maximum Ratings

Symbol	Parameter	Conditions	Min	Max	Unit
V_{DS}	Drain-Source Voltage	$T_C = 25\text{ }^\circ\text{C}$	-	30	V
V_{GS}	Gate-Source Voltage	$T_C = 25\text{ }^\circ\text{C}$	-	± 20	V
I_D^*	Drain Current	$T_C = 25\text{ }^\circ\text{C}, V_{GS} = 10\text{ V}$	-	502	A
		$T_C = 100\text{ }^\circ\text{C}, V_{GS} = 10\text{ V}$	-	316	A
I_{DM}^{***}	Pulsed Source Current	$T_C = 25\text{ }^\circ\text{C}, V_{GS} = 10\text{ V}$	-	1000	A
P_{tot}^*	Total Power Dissipation	$T_C = 25\text{ }^\circ\text{C}$	-	227	W
T_{stg}	Storage Temperature		- 55	150	$^\circ\text{C}$
T_J	Junction Temperature		-	150	$^\circ\text{C}$
I_S	Diode Forward Current	$T_C = 25\text{ }^\circ\text{C}$	-	502	A
E_{AS}^*	Single Pulsed Avalanche Energy	$V_{DD} = 30\text{ V}, L = 1.0\text{ mH}$	-	420	mJ
$R_{\theta JA}^*$	Thermal Resistance- Junction to Ambient		-	60	$^\circ\text{C} / \text{W}$
$R_{\theta JC}^*$	Thermal Resistance- Junction to Case		-	0.55	

Notes :

- * Surface Mounted on 1 in² pad area, $t \leq 10\text{ sec}$
- ** Pulse width $\leq 300\text{ }\mu\text{s}$, duty cycle $\leq 2\%$
- *** Limited by bonding wire

4. Ordering Information

Device	Package	Packing
AICN007N03	PDFN-8 (5x6)	Tape & Reel

