

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China









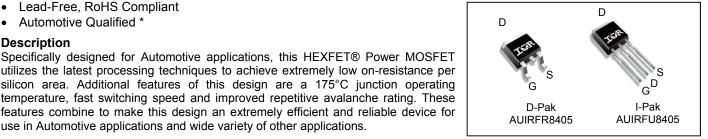
AUTOMOTIVE GRADE

AUIRFR8405 AUIRFU8405

Features

- Advanced Process Technology
- New Ultra Low On-Resistance
- 175°C Operating Temperature
- Fast Switching
- Repetitive Avalanche Allowed up to Timax
- Lead-Free, RoHS Compliant
- Automotive Qualified *

$V_{ exttt{DSS}}$		40V
R _{DS(on)}	typ.	1.65m Ω
	max.	1.98m Ω
I _{D (Silicon Lim}	nited)	211A①
D (Package Li	imited)	100A



temperature, fast switching speed and improved repetitive avalanche rating. These features combine to make this design an extremely efficient and reliable device for use in Automotive applications and wide variety of other applications.

Applications

Description

- Electric Power Steering (EPS)
- **Battery Switch**
- Start/Stop Micro Hybrid
- Heavy Loads
- DC-DC Converter

G	D	S
Gate	Drain	Source

Base next number	Dookogo Tymo	Standard Pack		Orderchie Port Number
Base part number	Package Type	Form	Quantity	Orderable Part Number
AUIRFU8405	I-Pak	Tube	75	AUIRFU8405
AUIRFR8405	D. Dok	Tube	75	AUIRFR8405
AUIRFR0400	D-Pak	Tape and Reel Left	3000	AUIRFR8405TRL

Absolute Maximum Ratings

Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only; and functional operation of the device at these or any other condition beyond those indicated in the specifications is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability. The thermal resistance and power dissipation ratings are measured under board mounted and still air conditions. Ambient temperature (TA) is 25°C, unless otherwise specified.

Symbol	Parameter	Max.	Units
I _D @ T _C = 25°C	Continuous Drain Current, V _{GS} @ 10V (Silicon Limited)	211①	
I _D @ T _C = 100°C	Continuous Drain Current, V _{GS} @ 10V (Silicon Limited)	150①	
I _D @ T _C = 25°C	Continuous Drain Current, V _{GS} @ 10V (Package Limited)	100	— A
I _{DM}	Pulsed Drain Current ②	804®	
P _D @T _C = 25°C	Maximum Power Dissipation	163	W
	Linear Derating Factor	1.1	W/°C
V_{GS}	Gate-to-Source Voltage	± 20	V
T_J	Operating Junction and	-55 to + 175	
T _{STG}	Storage Temperature Range		°C
	Soldering Temperature, for 10 seconds (1.6mm from case)	300	

Avalanche Characteristics

E _{AS}	Single Pulse Avalanche Energy (Thermally Limited) 3	208	m l
E _{AS} (tested)	Single Pulse Avalanche Energy (Tested Limited) ③	256	mJ
I _{AR}	Avalanche Current ②	See Fig. 14, 15, 24a, 24b	Α
E _{AR}	Repetitive Avalanche Energy ②		mJ

Thermal Resistance

	~			
Symbol	Parameter	Тур.	Max.	Units
$R_{\theta JC}$	Junction-to-Case ®		0.92	
$R_{ heta JA}$	Junction-to-Ambient (PCB Mount) ®		50	°C/W
$R_{ heta JA}$	Junction-to-Ambient		110	

HEXFET® is a registered trademark of Infineon.

^{*}Qualification standards can be found at www.infineon.com



Static @ T_J = 25°C (unless otherwise specified)

	Parameter	Min.	Тур.	Max.	Units	Conditions
$V_{(BR)DSS}$	Drain-to-Source Breakdown Voltage	40			V	$V_{GS} = 0V, I_D = 250\mu A$
$\Delta V_{(BR)DSS}/\Delta T_J$	Breakdown Voltage Temp. Coefficient		0.03		V/°C	Reference to 25°C, I _D = 5mA ②
R _{DS(on)}	Static Drain-to-Source On-Resistance		1.65	1.98	mΩ	V _{GS} = 10V, I _D = 90A** ⑤
$V_{GS(th)}$	Gate Threshold Voltage	2.2	3.0	3.9	V	$V_{DS} = V_{GS}$, $I_D = 100 \mu A$
	Drain-to-Source Leakage Current			1.0	μA	$V_{DS} = 40V, V_{GS} = 0V$
I _{DSS}	Diani-to-Source Leakage Current			150	μΑ	$V_{DS} = 40V, V_{GS} = 0V, T_{J} = 125^{\circ}C$
	Gate-to-Source Forward Leakage			100	A	$V_{GS} = 20V$
I _{GSS}	Gate-to-Source Reverse Leakage			-100	nA	V _{GS} = -20V
R_G	Internal Gate Resistance		2.3		Ω	

Dynamic Electrical Characteristics @ T_J = 25°C (unless otherwise specified)

gfs	Forward Trans conductance	294			S	$V_{DS} = 10V, I_{D} = 90A^{**}$
Q_g	Total Gate Charge		103	155		$I_D = 90A^{**}$
Q_{gs}	Gate-to-Source Charge		26		nC	$V_{DS} = 20V$
Q_{gd}	Gate-to-Drain Charge		38		110	V _{GS} = 10V⑤
Q _{sync}	Total Gate Charge Sync. (Q _g - Q _{gd})		65			
$t_{d(on)}$	Turn-On Delay Time		12			$V_{DD} = 26V$
t _r	Rise Time		80		20	$I_D = 90A^{**}$
$t_{d(off)}$	Turn-Off Delay Time		51		ns	$R_G = 2.7\Omega$
t _f	Fall Time		51			V _{GS} = 10V⑤
C _{iss}	Input Capacitance		5171			$V_{GS} = 0V$
C _{oss}	Output Capacitance		770			$V_{DS} = 25V$
C_{rss}	Reverse Transfer Capacitance		523		pF	f = 1.0MHz, See Fig. 5
C _{oss eff.} (ER)	Effective Output Capacitance (Energy Related)		939			V_{GS} = 0V, V_{DS} = 0V to 32V \bigcirc
C _{oss eff.} (TR)	Effective Output Capacitance (Time Related)		1054			$V_{GS} = 0V, V_{DS} = 0V \text{ to } 32V $

Diode Characteristics

	Parameter	Min.	Typ	Max.	Units	Conditions
		IVIIII.	Тур.	IVIAA.		
lı .	Continuous Source Current			211①		MOSFET symbol
I _S	(Body Diode)			2110	Α	showing the
	Pulsed Source Current			804⑩	_ A	integral reverse
I _{SM}	(Body Diode) ①			004@		p-n junction diode.
V_{SD}	Diode Forward Voltage		0.9	1.3	V	$T_J = 25^{\circ}C, I_S = 90A^{**}, V_{GS} = 0V$ §
dv/dt	Peak Diode Recovery dv/dt⊕		2.1		V/ns	1.0 0,.0 ,
t _{rr}	Reverse Recovery Time		28			$T_J = 25^{\circ}C$ $V_R = 34V$,
			29		ns	$T_J = 125^{\circ}C$ $I_F = 90A^{**}$
Q_{rr}	Reverse Recovery Charge		19		200	$T_J = 25^{\circ}C$ di/dt = 100A/µs ©
			20		nC	T _J = 125°C di/dt = 100A/μs ⑤
I _{RRM}	Reverse Recovery Current		1.1		Α	T _J = 25°C

Notes:

- Calculated continuous current based on maximum allowable junction temperature. Bond wire current limit is 100A by source bonding technology. Note that current limitations arising from heating of the device leads may occur with some lead mounting arrangements. (Refer to AN-1140)
- ② Repetitive rating; pulse width limited by max. junction temperature. (See fig. 11)
- 3 Limited by T_{Jmax} starting $T_J = 25$ °C, L = 0.051mH, $R_G = 50\Omega$, $I_{AS} = 90$ A, $V_{GS} = 10$ V. Part not recommended for use above this value.
- 4 $I_{SD} \le 90A$, $di/dt \le 1304A/\mu s$, $V_{DD} \le V_{(BR)DSS}$, $T_J \le 175^{\circ}C$.
- ⑤ Pulse width $\leq 400 \mu s$; duty cycle $\leq 2\%$.
- \odot C_{oss eff.} (TR) is a fixed capacitance that gives the same charging time as C_{oss} while V_{DS} is rising from 0 to 80% V_{DSS}.
- © Coss eff. (ER) is a fixed capacitance that gives the same energy as Coss while V_{DS} is rising from 0 to 80% V_{DSS}.

 ® When mounted on 1" square PCB (FR-4 or G-10 Material). For recommended footprint and soldering techniques refer to application note #AN-994
- R_{θ} is measured at T_J approximately 90°C.
- Pulse drain current is limited by source bonding technology.
- ** All AC and DC test condition based on old Package limitation current = 90A.



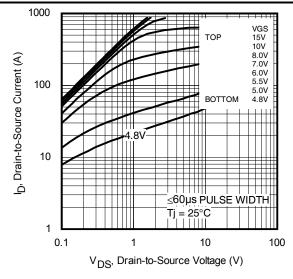


Fig. 1 Typical Output Characteristics

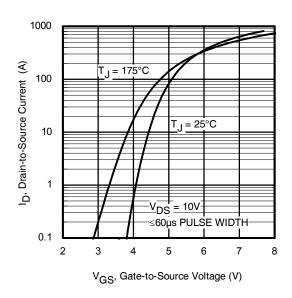


Fig. 3 Typical Transfer Characteristics

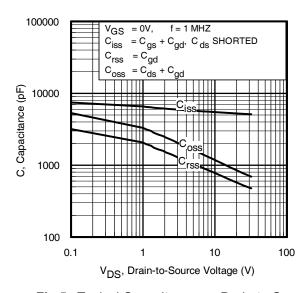


Fig 5. Typical Capacitance vs. Drain-to-Source Voltage

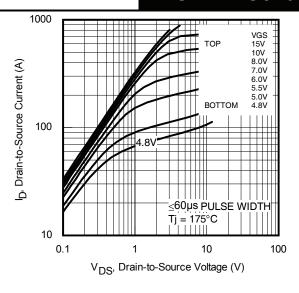


Fig. 2 Typical Output Characteristics

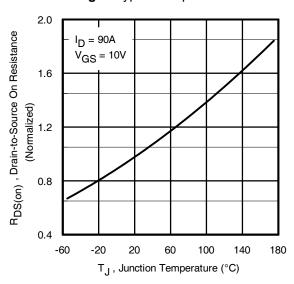


Fig. 4 Normalized On-Resistance vs. Temperature

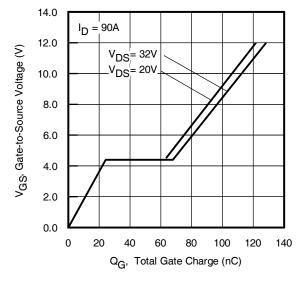
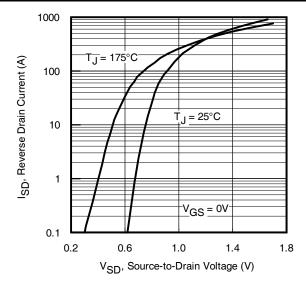


Fig 6. Typical Gate Charge vs. Gate-to-Source Voltage





10000

VDS, Drain-to-Source Voltage (V)

Fig. 7 Typical Source-to-Drain Diode Forward Voltage

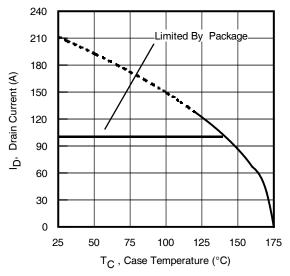


Fig 8. Maximum Safe Operating Area V(BR)DSS, Drain-to-Source Breakdown Voltage (V) 48 Id = 5.0mA47 46 45 44 43 42 41 40 -60 -20 20 60 100 140 180 T_J , Temperature ($^{\circ}C$)

Fig. 9 Maximum Drain Current vs. Case Temperature

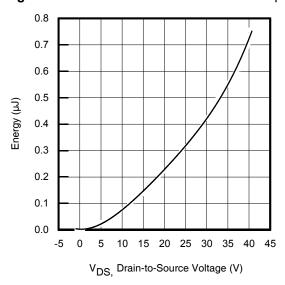


Fig 10. Drain-to-Source Breakdown Voltage

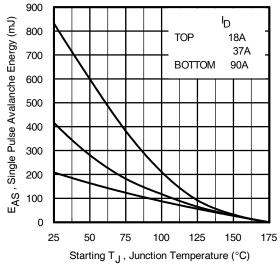


Fig. 11 Typical Coss Stored Energy

Fig 12. Maximum Avalanche Energy vs. Drain Current



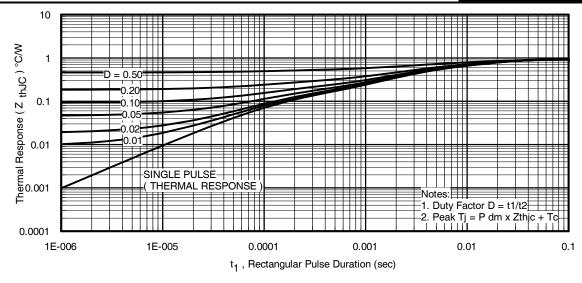


Fig 13. Maximum Effective Transient Thermal Impedance, Junction-to-Case

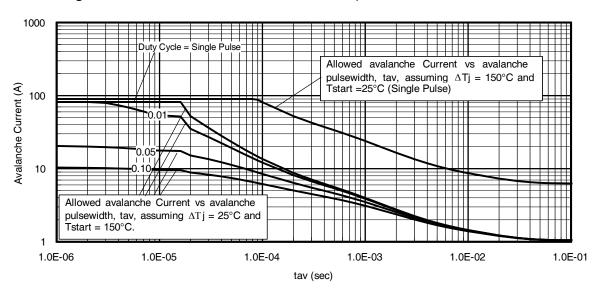


Fig 14. Typical Avalanche Current Vs. Pulse width

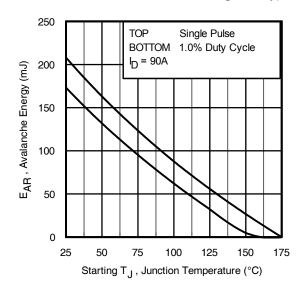


Fig 15. Maximum Avalanche Energy Vs. Temperature

Notes on Repetitive Avalanche Curves, Figures 14, 15: (For further info, see AN-1005 at www.infineon.com)

- (For further info, see AN-1005 at www.infineon.com)

 1. Avalanche failures assumption:
 - Purely a thermal phenomenon and failure occurs at a temperature far in excess of T_{jmax} . This is validated for every part type.
- 2. Safe operation in Avalanche is allowed as long as T_{jmax} is not exceeded.
- 3. Equation below based on circuit and waveforms shown in Figures 22a, 22b.
- 4. PD (ave) = Average power dissipation per single avalanche pulse.
- BV = Rated breakdown voltage (1.3 factor accounts for voltage increase during avalanche).
- 6. lav = Allowable avalanche current.
- 7. ΔT = Allowable rise in junction temperature, not to exceed T_{jmax} (assumed as 25°C in Figure 13, 14).

tav = Average time in avalanche.

D = Duty cycle in avalanche = tav ·f

ZthJC(D, tav) = Transient thermal resistance, see Figures 13)

$$\begin{split} P_{D \text{ (ave)}} &= 1/2 \text{ (} 1.3 \cdot \text{BV} \cdot \text{I}_{av} \text{)} = \Delta \text{T} / \text{Z}_{thJC} \\ I_{av} &= 2\Delta \text{T} / \text{ [} 1.3 \cdot \text{BV} \cdot \text{Z}_{th} \text{]} \\ E_{AS \text{ (AR)}} &= P_{D \text{ (ave)}} \cdot t_{av} \end{split}$$



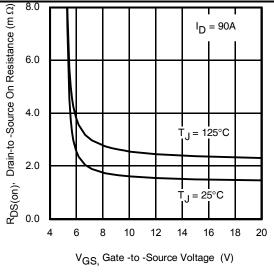


Fig 16. On-Resistance vs. Gate Voltage

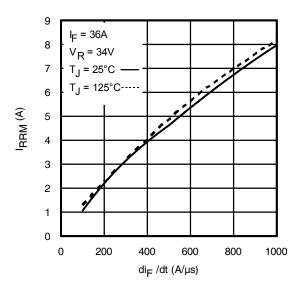


Fig. 18 - Typical Recovery Current vs. dif/dt

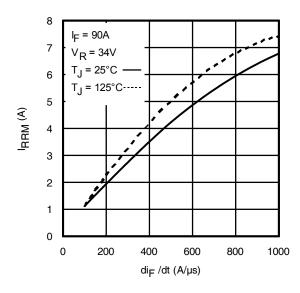


Fig. 20 - Typical Recovery Current vs. dif/dt

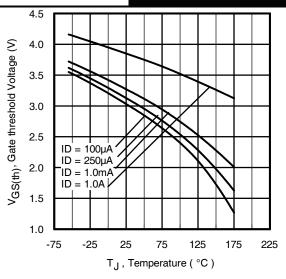


Fig. 17 - Threshold Voltage vs. Temperature

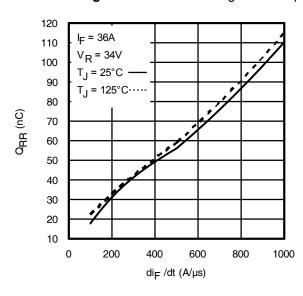


Fig. 19 - Typical Stored Charge vs. dif/dt

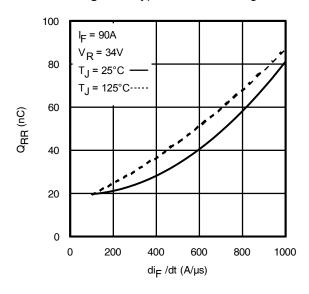


Fig. 21 - Typical Stored Charge vs. dif/dt



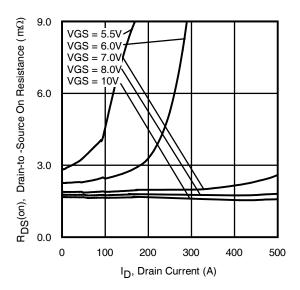


Fig 22. Typical On-Resistance vs. Drain Current



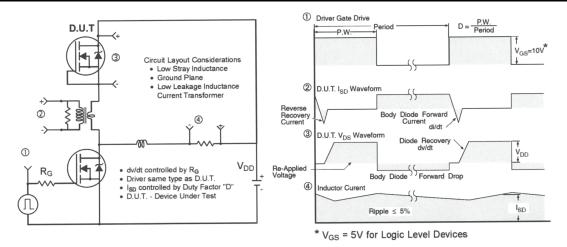


Fig 23. Peak Diode Recovery dv/dt Test Circuit for N-Channel HEXFET® Power MOSFETs

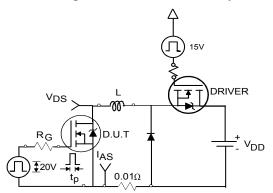


Fig 24a. Unclamped Inductive Test Circuit

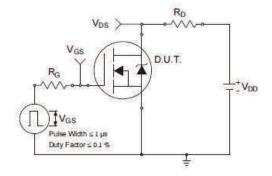


Fig 25a. Switching Time Test Circuit

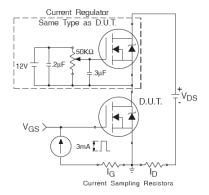


Fig 26a. Gate Charge Test Circuit

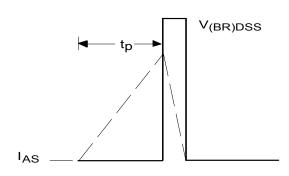


Fig 24b. Unclamped Inductive Waveforms

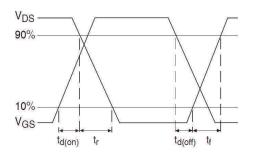


Fig 25b. Switching Time Waveforms

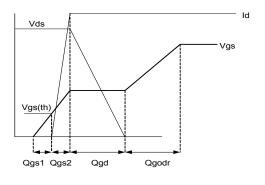
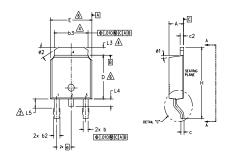


Fig 26b. Gate Charge Waveform

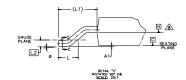
8

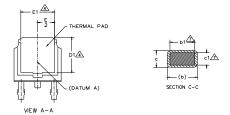


D-Pak (TO-252AA) Package Outline (Dimensions are shown in millimeters (inches))









NOTES:

- 1.- DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994
- 2.- DIMENSION ARE SHOWN IN INCHES [MILLIMETERS].
- 3- LEAD DIMENSION UNCONTROLLED IN L5.
- A- DIMENSION D1, E1, L3 & b3 ESTABLISH A MINIMUM MOUNTING SURFACE FOR THERMAL PAD.
- 5.— SECTION C-C DIMENSIONS APPLY TO THE FLAT SECTION OF THE LEAD BETWEEN .005 AND 0.10 [0.13 AND 0.25] FROM THE LEAD TIP.
- Limited Dimension D & E DO NOT INCLUDE MOLD FLASH. MOLD FLASH SHALL NOT EXCEED .005 [0.13] PER SIDE. THESE DIMENSIONS ARE MEASURED AT THE OUTMOST EXTREMES OF THE PLASTIC BODY.
- A- DIMENSION b1 & c1 APPLIED TO BASE METAL ONLY.
- ♠ DATUM A & B TO BE DETERMINED AT DATUM PLANE H.
- 9.- OUTLINE CONFORMS TO JEDEC OUTLINE TO-252AA.

S Y M B DIMENSIONS N O T E M B B B B B B B B B B B B B B B B B B B								
B O L MINLIMETERS INCHES T E S E S E S E S E S E S E S E S E S E			DIMENSIONS					
A 2.18 2.39 .086 .094 A1 - 0.13005 b 0.64 0.89 .025 .035 b1 0.65 0.79 .025 .031 7 b2 0.76 1.14 .030 .045 b3 4.95 5.46 .195 .215 4 c 0.46 0.61 .018 .022 7 c2 0.46 0.89 .018 .035 D 5.97 6.22 .235 .245 6 D1 5.21205 - 4 E 6.35 6.73 .250 .265 6 E1 4.32170 - 4 E 6.35 6.73 .250 .265 6 E1 4.32170 - 4 E 2.29 BSC .090 BSC H 9.40 10.41 .370 .410 L 1.40 1.78 .055 .070 L1 2.74 BSC .108 REF. L2 0.51 BSC .020 BSC L3 0.89 1.27 .035 .050 4 L4102040 L5 1.14 1.52 .045 .060 3 Ø 0° 10° 0° 10° Ø1 0° 15° 0° 15°	В	MILLIM	ETERS	INCHES		Ť		
A1 - 0.13 - .005 b 0.64 0.89 .025 .035 b1 0.65 0.79 .025 .031 7 b2 0.76 1.14 .030 .045 b3 4.95 5.46 .195 .215 4 c 0.46 0.61 .018 .024 7 c2 0.46 0.89 .018 .035 6 D 5.97 6.22 .235 .245 6 D1 5.21 - .205 - 4 E 6.35 6.73 .250 .265 6 E1 4.32 - .170 - 4 e 2.29 BSC .090 BSC H 9.40 10.41 .370 .410 L 1.40 1.78 .055 .070 L1 2.74 BSC .108 REF.		MIN.	MAX.	MIN.	MAX.	E S		
b 0.64 0.89 .025 .035 b1 0.65 0.79 .025 .031 7 b2 0.76 1.14 .030 .045 b3 4.95 5.46 .195 .215 4 c 0.46 0.61 .018 .024 7 c1 0.41 0.56 .016 .022 7 c2 0.46 0.89 .018 .035 D 5.97 6.22 .235 .245 6 D1 5.21 - .205 - 4 E 6.35 6.73 .250 .265 6 E1 4.32 - .170 - 4 e 2.29 BSC .090 BSC H 9.40 10.41 .370 .410 L 1.140 1.78 .055 .070 L1 2.74 BSC .108 REF. <tr< td=""><td>Α</td><td>2.18</td><td>2.39</td><td>.086</td><td>.094</td><td></td></tr<>	Α	2.18	2.39	.086	.094			
b1 0.65 0.79 .025 .031 7 b2 0.76 1.14 .030 .045 b3 4.95 5.46 .195 .215 4 c 0.46 0.61 .018 .024 7 c2 0.46 0.89 .018 .035 6 D 5.97 6.22 .235 .245 6 D1 5.21 — .205 — 4 E 6.35 6.73 .250 .265 6 E1 4.32 — .170 — 4 e 2.29 BSC .090 BSC H 9.40 10.41 .370 .410 L 1.140 1.78 .055 .070 L1 2.74 BSC .108 REF. L2 0.51 BSC .020 BSC L3 0.89 1.27 .035 .050 4 <td>A1</td> <td>_</td> <td>0.13</td> <td>-</td> <td>.005</td> <td></td>	A1	_	0.13	-	.005			
b2 0.76 1.14 0.30 0.045 b3 4.95 5.46 .195 .215 4 c 0.46 0.61 .018 .024 7 c1 0.41 0.56 .016 .022 7 c2 0.46 0.89 .018 .035 D 5.97 6.22 .235 .245 6 D1 5.21 - .205 - 4 E 6.35 6.73 .250 .265 6 E1 4.32 - .170 - 4 e 2.29 BSC .090 BSC H 9.40 10.41 .370 .410 L 1.40 1.78 .055 .070 L1 2.74 BSC .108 REF. L2 0.51 BSC .020 BSC L3 0.89 1.27 .035 .050 4	b	0.64	0.89	.025	.035			
b3	ь1	0.65	0.79	.025	.031	7		
c 0.46 0.61 .018 .024 c1 0.41 0.56 .016 .022 7 c2 0.46 0.89 .018 .035 6 D 5.97 6.22 .235 .245 6 D1 5.21 - .205 - 4 E 6.35 6.73 .250 .265 6 E1 4.32 - .170 - 4 e 2.29 BSC .090 BSC H 9.40 10.41 .370 .410 L 1.40 1.78 .055 .070 L1 2.74 BSC .108 REF. L2 0.51 BSC .020 BSC L3 0.89 1.27 .035 .050 4 L4 - 1.02 - .040 L5 1.14 1.52 .045 .060 3	b2	0.76	1.14	.030	.045			
c1 0.41 0.56 .016 .022 7 c2 0.46 0.89 .018 .035 6 D 5.97 6.22 .235 .245 6 D1 5.21 - .205 - 4 E 6.35 .250 .265 6 E1 4.32 - .170 - 4 e 2.29 BSC .090 BSC H 9.40 10.41 .370 .410 L 1.40 1.78 .055 .070 L1 2.74 BSC .108 REF. L2 0.51 BSC .020 BSC L3 0.89 1.27 .035 .050 4 L4 - 1.02 - .040 L5 1.14 1.52 .045 .060 3 Ø 0° 10° 0° 10° 10° Ø	b3	4.95	5.46	.195	.215	4		
c2 0.46 0.89 .018 .035 D 5.97 6.22 .235 .245 6 D1 5.21 - .205 - 4 E 6.35 6.73 .250 .265 6 E1 4.32 - .170 - 4 e 2.29 BSC .090 BSC H 9.40 10.41 .370 .410 L 1.40 1.78 .055 .070 L1 2.74 BSC .108 REF. L2 0.51 BSC .020 BSC L3 0.89 1.27 .035 .050 4 L4 - 1.02 - .040 L5 1.14 1.52 .045 .060 3 Ø 0° 10° 0° 10° Ø 0° 10° 0° 15°	С	0.46	0.61	.018	.024			
D 5.97 6.22 .235 .245 6	c1	0.41	0.56	.016	.022	7		
D1	c2	0.46	0.89	.018	.035			
E 6.35 6.73 .250 .265 6 E1 4.32170 - 4 e 2.29 BSC .090 BSC H 9.40 10.41 .370 .410 L 1.40 1.78 .055 .070 L1 2.74 BSC .108 REF. L2 0.51 BSC .020 BSC L3 0.89 1.27 .035 .050 4 L4 - 1.02040 L5 1.14 1.52 .045 .060 3 ø 0° 10° 0° 10° 0° 10° ø1 0° 15° 0° 15°	D	5.97	6.22	.235	.245	6		
E1 4.32 - .170 - 4 e 2.29 BSC .090 BSC H 9.40 10.41 .370 .410 L 1.40 1.78 .055 .070 L1 2.74 BSC .108 REF. L2 0.51 BSC .020 BSC L3 0.89 1.27 .035 .050 4 L4 - 1.02 - .040 L5 1.14 1.52 .045 .060 3 Ø 0° 10° 0° 10° Ø1 0° 15° 0° 15°	D1	5.21	-	.205	-	4		
e 2.29 BSC .090 BSC H 9.40 10.41 .370 .410 L 1.40 1.78 .055 .070 L1 2.74 BSC .108 REF. L2 0.51 BSC .020 BSC L3 0.89 1.27 .035 .050 4 L4 - 1.02 - .040 L5 1.14 1.52 .045 .060 3 Ø 0° 10° 0° 10° 0° 15° Ø1 0° 15° 0° 15° 0° 15°	Ε	6.35	6.73	.250	.265	6		
H 9.40 10.41 .370 .410	E1	4.32	-	.170	-	4		
L 1.40 1.78 .055 .070 L1 2.74 BSC .108 REF. L2 0.51 BSC .020 BSC L3 0.89 1.27 .035 .050 4 L4 - 1.02040 L5 1.14 1.52 .045 .060 3 Ø 0° 10° 0° 10° 0° 10° Ø1 0° 15° 0° 15°	е	2.29	BSC	.090	BSC			
L1	Н	9.40	10.41	.370	.410			
L2 0.51 BSC .020 BSC L3 0.89 1.27 .035 .050 4 L4 - 1.02 - .040 .045 .060 3 Ø 0° 10° 0° 10° 9 15° 15° 15°	L	1.40	1.78	.055	.070			
L3 0.89 1.27 .035 .050 4 L4 - 1.02040 L5 1.14 1.52 .045 .060 3 Ø 0° 10° 0° 10° Ø1 0° 15° 0° 15°	L1	2.74	BSC	.108	REF.			
L4 - 1.02 - .040 L5 1.14 1.52 .045 .060 3 Ø 0° 10° 0° 10° Ø1 0° 15° 0° 15°	L2	0.51	BSC	.020	BSC			
L5 1.14 1.52 .045 .060 3 ø 0° 10° 0° 10° ø1 0° 15° 0° 15°	L3	0.89	1.27	.035	.050	4		
ø 0° 10° 0° 10° ø 0° 15° 0° 15°	L4	-	1.02	-	.040			
ø1 0° 15° 0° 15°	L5	1.14	1.52	.045	.060	3		
	ø	0.	10°	0,	10°			
ø2 25° 35° 25° 35°	ø1	0,	15*	0,	15*			
	ø2	25*	35°	25*	35*			

LEAD ASSIGNMENTS

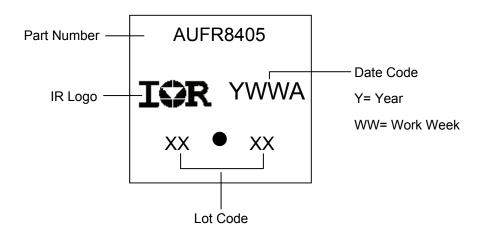
HEXFET

- 1.- GATE
- 2.- DRAIN
- 3.- SOURCE 4.- DRAIN

IGBT & CoPAK

- 1.- GATE
- 2.- COLLECTOR
- 3.- EMITTER 4.- COLLECTOR

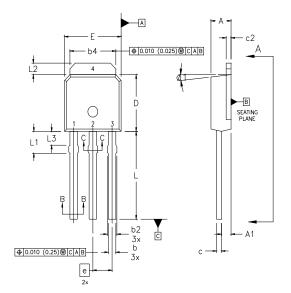
D-Pak (TO-252AA) Part Marking Information

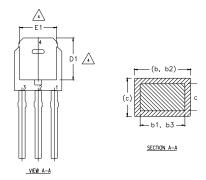


Note: For the most current drawing please refer to IR website at http://www.irf.com/package/



I-Pak (TO-251AA) Package Outline (Dimensions are shown in millimeters (inches)





NOTES:

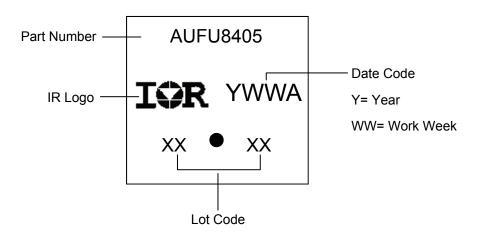
- 1 DIMENSIONING AND TOLERANCING PER ASME Y14.5 M- 1994.
- 2 DIMENSIONS ARE SHOWN IN MILLIMETERS [INCHES].
- 3 DIMENSION D & E DO NOT INCLUDE MOLD FLASH, MOLD FLASH SHALL NOT EXCEED 0.005" (0.127) PER SIDE. THESE DIMENSIONS ARE MEASURED AT THE OUTERMOST EXTREMES OF THE PLASTIC BODY.
- 4 THERMAL PAD CONTOUR OPTION WITHIN DIMENSION 64, L2, E1 & D1.
 - LEAD DIMENSION UNCONTROLLED IN L3.
- DIMENSION 61, 63 APPLY TO BASE METAL ONLY.
 OUTLINE CONFORMS TO JEDEC OUTLINE TO-251AA.
- 8 CONTROLLING DIMENSION : INCHES.

LEAD ASSIGNMENTS

HEXEL	. І

- 1.- GATE 2.- DRAIN
- 3.- SOURCE 4.- DRAIN
- DIMENSIONS SYMBOL MILLIMETERS INCHES MIN. NOTES 2.18 2.39 0.086 .094 A1 0.89 1.14 0.035 0.045 b 0.64 0.89 0.025 0.035 ь1 0.64 0.79 0.025 0.031 b2 0.76 1.14 0.030 0.045 0.76 1.04 0.030 0.041 5.00 5.46 0.195 0.215 b4 0.46 0.61 0.018 0.024 0.016 0.41 0.56 0.022 c1 c2 .046 0.86 0.018 0.035 D 5.97 6.22 0.235 0.245 D1 5.21 0.205 6.35 6.73 0.250 0.265 Ε1 4.32 0.170 0.090 BSC е L 8.89 9.60 0.350 0.380 L1 1,91 2.29 0.075 0.090 L2 0.89 1.27 0.035 0.050 L3 1.14 1.52 0.045 0.060 15*

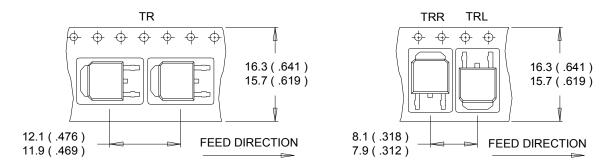
I-Pak (TO-251AA) Part Marking Information



Note: For the most current drawing please refer to IR website at http://www.irf.com/package/

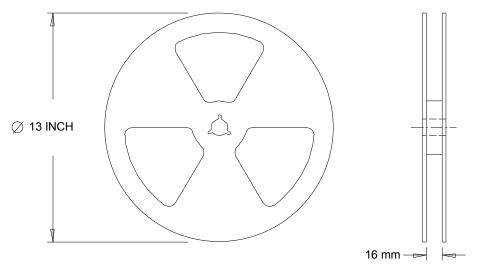


D-Pak (TO-252AA) Tape & Reel Information (Dimensions are shown in millimeters (inches))



NOTES:

- 1. CONTROLLING DIMENSION: MILLIMETER.
- 2. ALL DIMENSIONS ARE SHOWN IN MILLIMETERS (INCHES).
- 3. OUTLINE CONFORMS TO EIA-481 & EIA-541.



NOTES:

1. OUTLINE CONFORMS TO EIA-481.

Note: For the most current drawing please refer to IR website at http://www.irf.com/package/



Qualification Information

		Automotive					
			(per AEC-Q101)				
Qualificat	tion Level	Comments: This part number(s) passed Automotive qualification. In Industrial and Consumer qualification level is granted by extension of the Automotive level.					
Maintana Onnaitiaiteal anal		D-Pak	MCI 4				
Woisture	Moisture Sensitivity Level		MSL1				
	Machine Madel	Class M3 (+/- 400V) [†]					
	Machine Model	AEC-Q101-002					
FOD	Liver on Dady Madel	Class H1C (+/- 2000V) [†]					
ESD	Human Body Model	AEC-Q101-001					
	Observed Davis a Madal	Class C5 (+/- 2000V) [†]					
Charged Device Model		AEC-Q101-005					
RoHS Compliant			Yes				

[†] Highest passing voltage.

Revision History

Date	Comments
10/17/2014	Corrected label on SOA curve Fig 8 on page 4.
	Updated Package outline on page 9 & 10
10/12/2015	Updated datasheet with corporate template
	Corrected ordering table on page 1.

Published by Infineon Technologies AG 81726 München, Germany © Infineon Technologies AG 2015 All Rights Reserved.

IMPORTANT NOTICE

The information given in this document shall in <u>no event</u> be regarded as a guarantee of conditions or characteristics ("Beschaffenheitsgarantie"). With respect to any examples, hints or any typical values stated herein and/or any information regarding the application of the product, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation warranties of non-infringement of intellectual property rights of any third party.

In addition, any information given in this document is subject to customer's compliance with its obligations stated in this document and any applicable legal requirements, norms and standards concerning customer's products and any use of the product of Infineon Technologies in customer's applications.

The data contained in this document is exclusively intended for technically trained staff. It is the responsibility of customer's technical departments to evaluate the suitability of the product for the intended application and the completeness of the product information given in this document with respect to such application.

For further information on the product, technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies office (www.infineon.com).

WARNINGS

Due to technical requirements products may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies office.

Except as otherwise explicitly approved by Infineon Technologies in a written document signed by authorized representatives of Infineon Technologies, Infineon Technologies' products may <u>not</u> be used in any applications where a failure of the product or any consequences of the use thereof can reasonably be expected to result in personal injury.