



DESCRIPTION

The AM0765AH is available in TO-220 and TO-220F packages.

FEATURES

- Available in TO-220 and TO-220F Packages

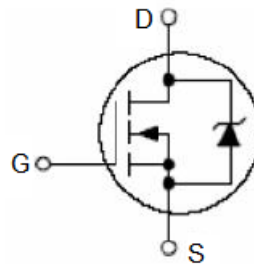
ORDERING INFORMATION

Package Type	Part Number	
TO-220 SPQ: 50pcs/Tube	T3	AM0765AHT3U
		AM0765AHT3VU
TO-220F SPQ: 50pcs/Tube	T3F	AM0765AHT3FU
		AM0765AHT3FVU
Note	V: Halogen free Package U: Tube	
AiT provides all RoHS products		

APPLICATIONS

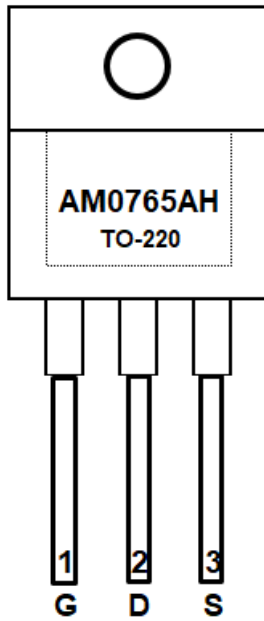
- High efficiency switch mode power supplies
- Electronic lamp ballasts based on half bridge
- UPS

TYPICAL APPLICATION

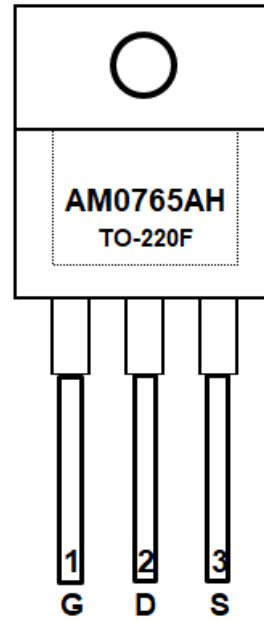




PIN DESCRIPTION



Top View



Top View

Pin #	Symbol	Function
1	G	Gate
2	D	Drain
3	S	Source



ABSOLUTE MAXIMUM RATINGS

V _{DS} , Drain-Source Voltage		650V
I _D , Drain Current- Continuous	@25°C	7A
	@100°C	4.2A
I _{DM} , Pulsed Drain Current ^{NOTE1}		28A
V _{GS} , Gate-Source Voltage		±30V
E _{AS} , Single Pulse Avalanche ^{NOTE2}		220mJ
I _{AS} , Pulsed Avalanche Rating ^{NOTE2}		7A
T _J , T _{STG} , Operating Junction & Storage Temperature		-55°C ~150°C
T _L , Lead Temperature (1/16" from case for 10sec.)		300°C

Stress beyond above listed "Absolute Maximum Ratings" may lead permanent damage to the device. These are stress ratings only and operations of the device at these or any other conditions beyond those indicated in the operational sections of the specifications are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

NOTE1: Pulse width limited by maximum junction temperature.

NOTE2: V_{DD} = 50V, V_{DS} = 650V, R_G = 25 Ω, T_J: 25°C



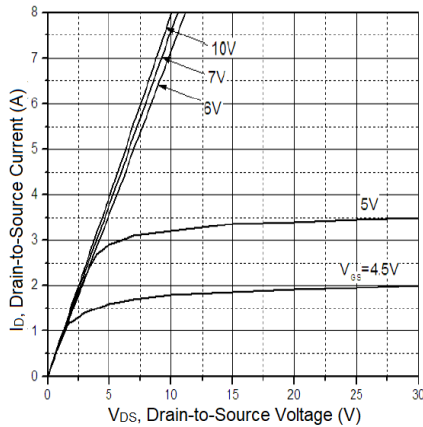
ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Min	Typ	Max	Units
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	650	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2.5	-	4.5	V
Gate-Body Leakage	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 30V$	-	-	± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=650V, V_{GS}=0V$	-	-	1	μA
		$V_{DS}=650V, V_{GS}=0V, T_J=150^\circ C$	-	-	10	
On-State Drain Current	$R_{DS(ON)}$	$V_{GS}=10V, I_D=3.5A$	-	1.15	-	Ω
		$V_{GS}=10V, I_D=2.0A$	-	1.11	-	
		$V_{GS}=10V, I_D=4.0A$	-	1.17	-	
DYNAMIC						
Input Capacitance	C_{iss}	$V_{GS}=0V, V_{DS}=25V, f=1MHz$	-	998	-	μF
Output Capacitance	C_{oss}		-	102	-	
Reverse Transfer Capacitance	C_{rss}		-	13	-	
Total Gate Charge	Q_g	$V_{DD}=520V, I_D=7A, V_{GS}=10V$	-	28	-	nC
Gate-Source Charge	Q_{gs}		-	4.8	-	
Gate-Drain Charge	Q_{gd}		-	14	-	
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_C = 25^\circ C$)						
Continuous Current	I_S		-	-	7	A
Forward Voltage	V_{SD}	$I_F = I_S, V_{GS} = 0V$	-	-	1.5	V
THERMAL DATA						
Thermal Resistance Junction to Case	$R_{\theta JC}$	TO-220	-	-	0.75	$^\circ C$
		TO-220F	-	-	2.3	/W
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	TO-220	-	-	62.5	$^\circ C$
		TO-220F	-	-	62.5	/W

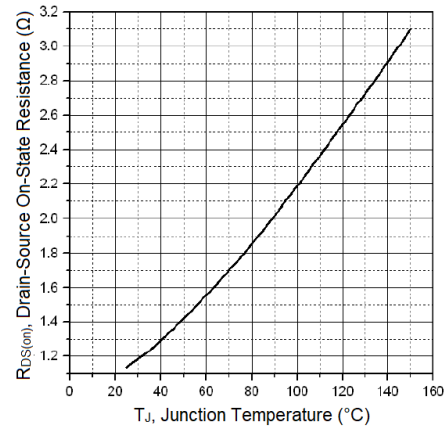


TYPICAL ELECTRICAL CHARACTERISTICS

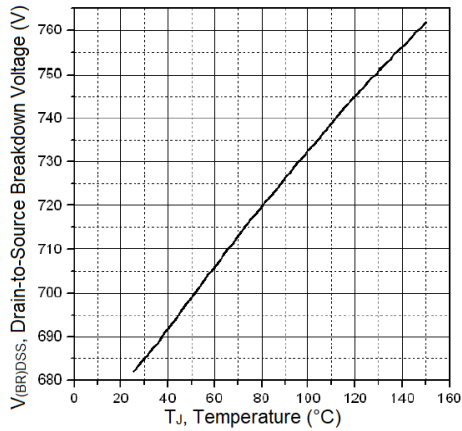
1. Typical Output Characteristics



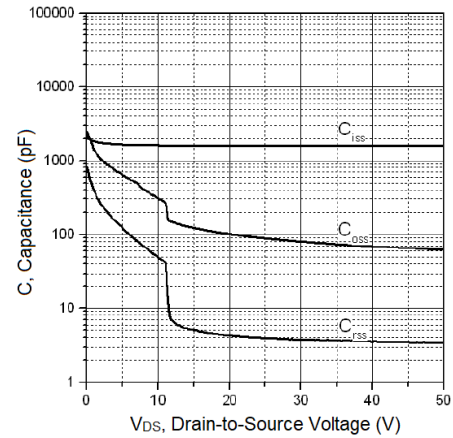
2. Normalized On-Resistance vs. Junction Temperature



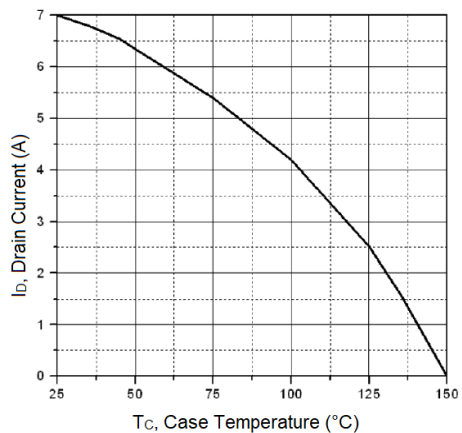
3. Drain-to-Source Breakdown Voltage vs. Junction Temperature



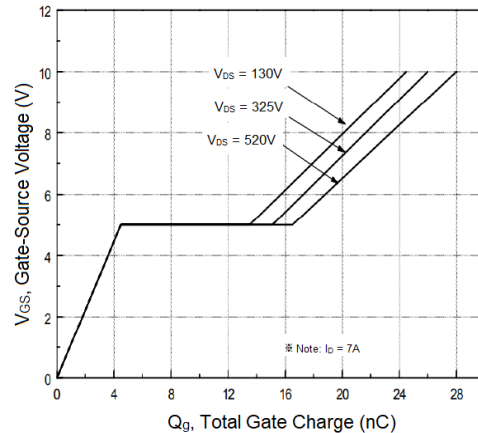
4. Typical Capacitance vs. Drain-to-Source Voltage



5. Drain Current vs. Case Temperature

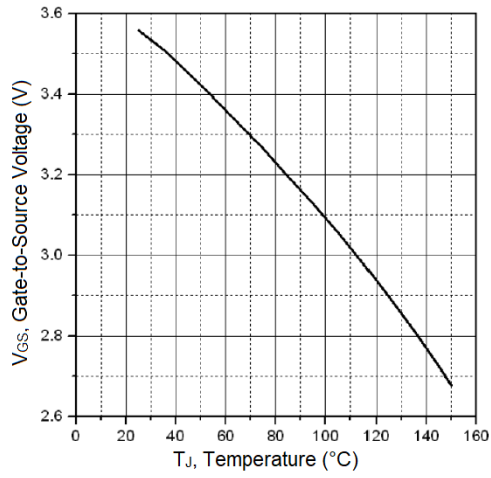


6. Q_g , Total Gate Charge

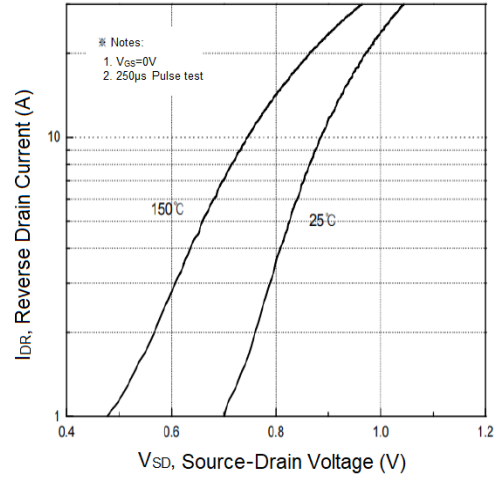




7. Gate-to-source cut-off voltage



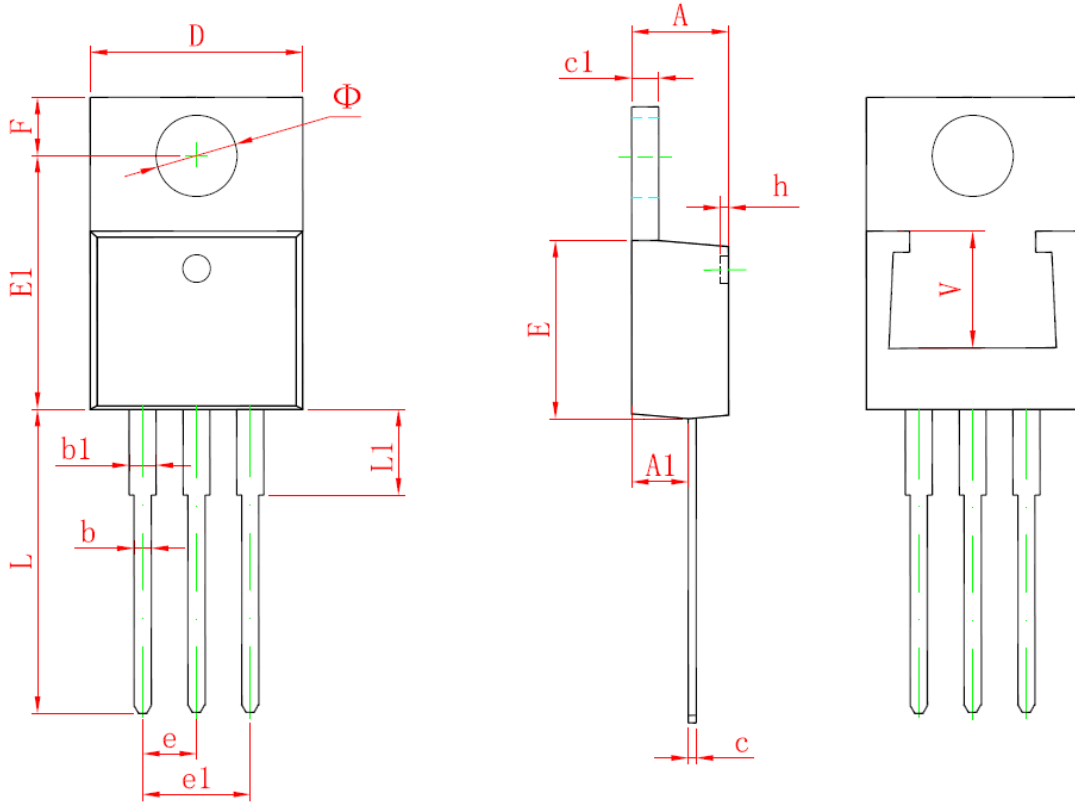
8. Body Diode Forward Voltage





PACKAGE INFORMATION

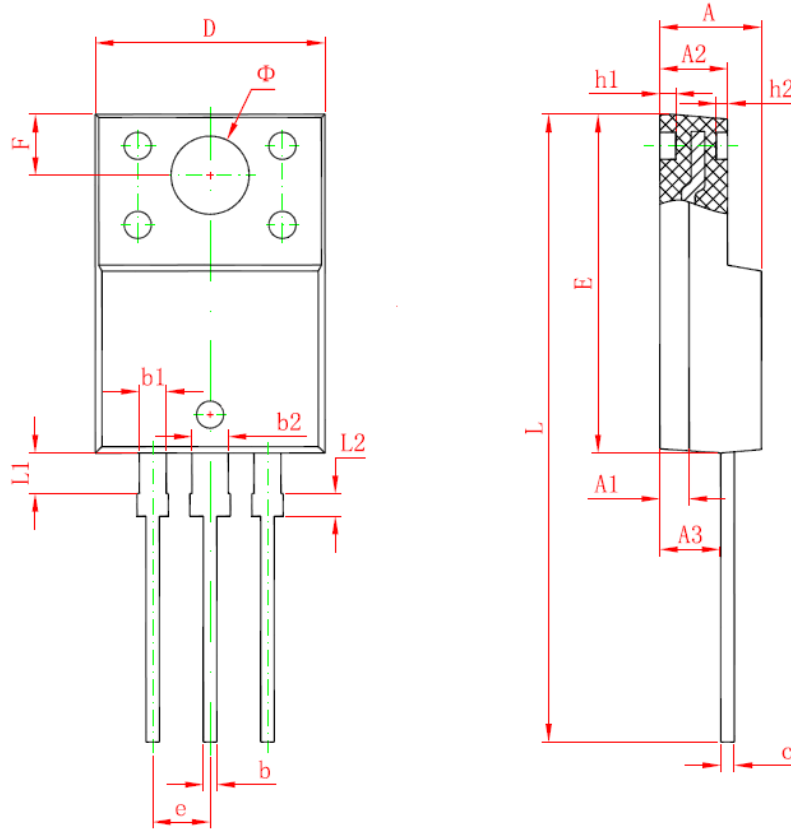
Dimension in TO-220 (Unit: mm)



Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	4.470	4.670	0.176	0.184
A1	2.520	2.820	0.099	0.111
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.310	0.530	0.012	0.021
c1	1.170	1.370	0.046	0.054
D	10.010	10.310	0.394	0.406
E	8.500	8.900	0.335	0.350
E1	12.060	12.460	0.475	0.491
e	2.540 TYP.		0.100 TYP.	
e1	4.980	5.180	0.196	0.204
F	2.590	2.890	0.102	0.114
h	0.000	0.300	0.000	0.012
L	13.400	13.800	0.528	0.543
L1	3.560	3.960	0.140	0.156
Φ	3.735	3.935	0.147	0.155
V	5.600 REF.		0.220 REF.	



Dimension in TO-220F (Unit: mm)



Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	4.300	4.700	0.169	0.185
A1	1.300 REF.		0.051 REF.	
A2	2.800	3.200	0.110	0.126
A3	2.500	2.900	0.098	0.114
b	0.500	0.750	0.020	0.030
b1	1.100	1.350	0.043	0.053
b2	1.500	1.750	0.059	0.069
c	0.500	0.750	0.020	0.030
D	9.960	10.360	0.392	0.408
E	14.800	15.200	0.583	0.598
e	2.540 TYP.		0.100 TYP.	
F	2.700 REF.		0.106 REF.	
ϕ	3.500 REF.		0.138 REF.	
h1	0.800 REF.		0.031 REF.	
h2	0.500 REF.		0.020 REF.	
L	28.000	28.400	1.102	1.118
L1	1.700	1.900	0.067	0.075
L2	0.900	1.100	0.035	0.043



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