DESCRIPTION

The AM65R035TLF is available in TO-247 Package.

BVDSS	RDSON	ID
650V	35mΩ	77A

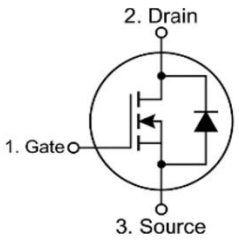
FEATURE

- Fast Switching
- $R_{DS(ON)}$, Typ= 35mΩ @V_{GS}=10V
- Low Gate Charge and $R_{DS(ON)}$
- 100%Single Pulse avalanche energy Test

APPLICATION

- PWM Application
- Hard switched and high frequency circuits
- Power Management

PIN DESCRIPTION



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

ORDERING INFORMATION

Package Type	Part Number	
TO-247	TL3F	AM65R035TLF
Note	SPQ: 30pcs/Tube	
AiT provides all RoHS products		

ABSOLUTE MAXIMUM RATINGS

T_A = 25°C, unless otherwise specified.

Parameter		Symbol	Value	Unit
Drain-to-Source Voltage		V_{DSS}	650	V
Gate-to-Source Voltage		V_{GS}	±30	V
Continuous Drain Current		I_D	77	A
Continuous Drain Current	T_C = 100 °C		45	A
Pulsed Drain Current		I_{DM}	308	A
Single Pulse Avalanche Energy [1]		E_{AS}	1950	mJ
Power Dissipation		P_D	400	W
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	℃
Thermal Resistance Junction to Case		$R_{\theta JC}$	0.31	℃/W

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

T_A = 25°C, unless otherwise specified.

Parameter	Symbol	Conditions	Min	Typ.	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V, I_D=250μA	650	-	-	V
Drain-Source Leakage Current	I_{DSS}	V_{DS}=480V, V_{GS}=0V	-	-	1	μA
Gate-Source Leakage Current	I_{GSS}	V_{GS} = ±30V, V_{DS}=0V	-	-	±0.1	nA
Gate Threshold Voltage	$V_{GS(TH)}$	V_{DS} = V_{GS}, I_D = 250μA	3	4	5	V
Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=35A	-	35	41	mΩ
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{GS} = 0V, V_{DS} = 100V f = 1.0MHz	-	7434	-	pF
Output Capacitance	C_{oss}		-	255	-	
Reverse Transfer Capacitance	C_{rss}		-	6.4	-	
Total Gate Charge	Q_g	I_D =35A, V_{DS} =480V V_{GS} = 10V	-	352.5	-	nC
Gate-Source Charge	Q_{gs}		-	66	-	
Gate-Drain Charge	Q_{gd}		-	228	-	
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	V_{GS}=10V, V_{DD}=480V, I_D =35A, R_G =20Ω	-	46.7	-	ns
Rise Time	t_r		-	24	-	
Turn-Off Delay Time	$t_{d(off)}$		-	108	-	
Fall Time	t_f		-	6	-	
Drain-Source Body Diode Characteristics						
Maximum Pulsed Current (Body Diode)	I_{SM}	-	-	-	77	A
Diode Forward Voltage	V_{SD}	I_S=1A, V_{GS}=0V	-	-	1.2	V
Reverse Recovery Time	T_{rr}	I_S=35A, T_J = 25°C, di/dt=100A/us	-	307	-	ns
Reverse Recovery Charge	Q_{rr}		-	21.6	-	nC

Note:
1. The test condition is V_{DD}=100V, V_{GS}=10V, L=60mH, R_G=25Ω

TYPICAL PERFORMANCE CHARACTERISTICS

Fig1. Power Dissipation

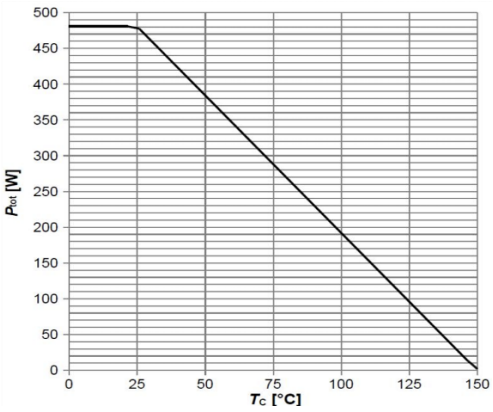


Fig 2. Safe Operating Area

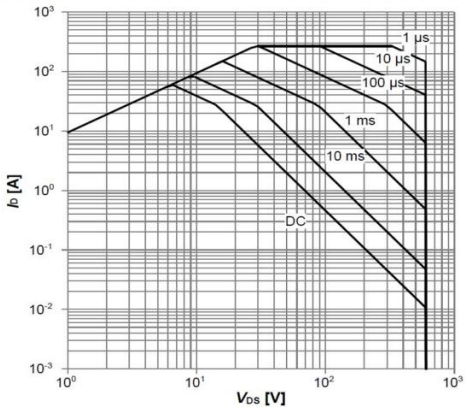


Fig 3. Safe Operating Area

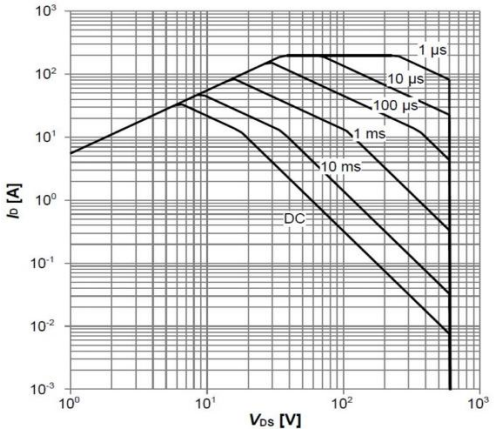


Fig 4. Max Transient Thermal Impedance

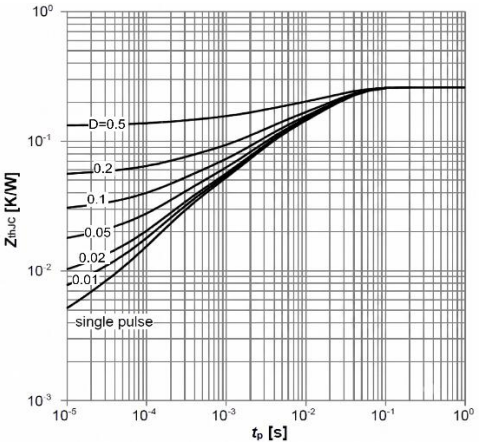


Fig 5. Typical Output Characteristics

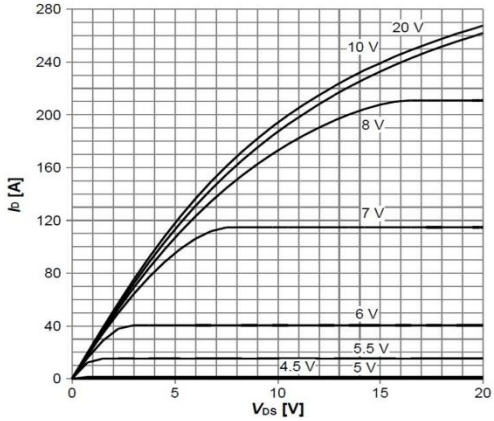


Fig 6. Typical Output Characteristics

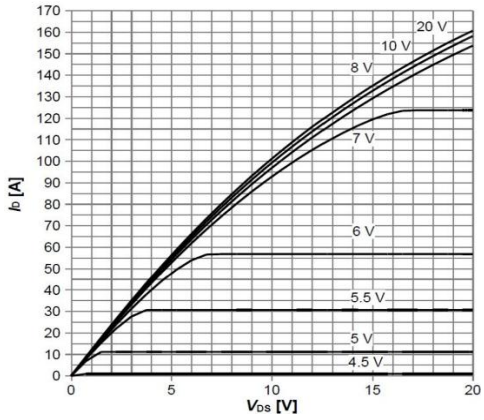


Fig 7. Typ. Drain-source on-state resistance

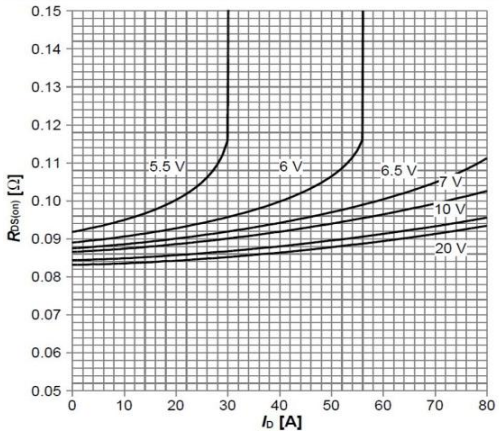
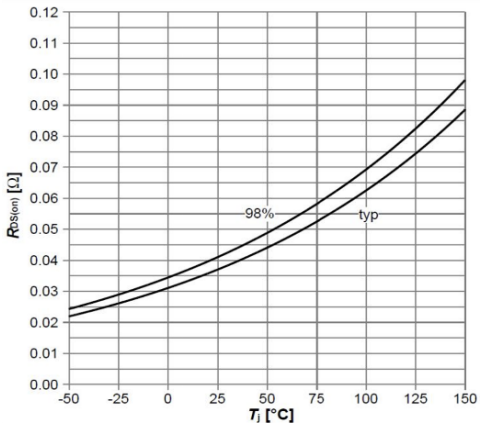
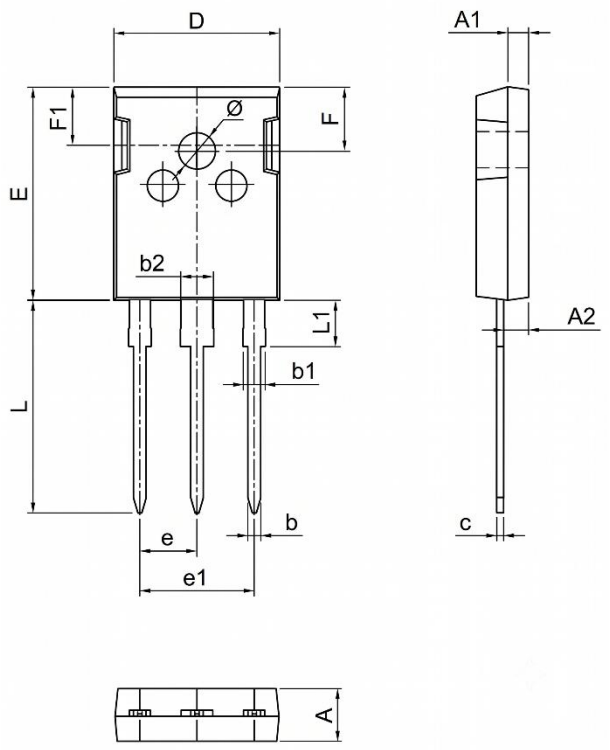


Fig 8. Drain-source on-state resistance



PACKAGE INFORMATION

Dimension in TO-247 (Unit: mm)



Symbol	Millimeters	
	Min	Max
A	4.90	5.10
A1	1.90	2.10
A2	2.29	2.54
Bb	1.00	1.40
b1	2.00	2.20
Bb2	3.00	3.20
Cc	0.50	0.70
D	15.75	16.05
E	20.20	20.80
Ee	5.45 BSC	
Ee1	10.90 BSC	
F	6.05	6.25
F1	5.80	6.00
L	20.10	20.40
L1	4.05	4.35
Φ	3.50	3.70

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