

ZXM64P035G

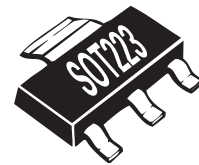
35V P-CHANNEL ENHANCEMENT MODE MOSFET

SUMMARY

$V_{(BR)DSS} = -35V$; $R_{DS(on)} = 0.075\Omega$; $I_D = -5.3A$

DESCRIPTION

This new generation of high cell density planar MOSFETs from Zetex utilises a unique structure that combines the benefits of low on-resistance with fast switching speed. This makes them ideal for high efficiency, low voltage, power management applications.

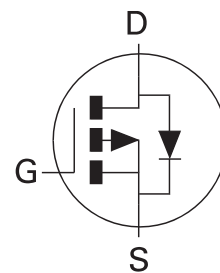


FEATURES

- Low on-resistance
- Fast switching speed
- Low threshold
- Low gate drive
- SOT223 package

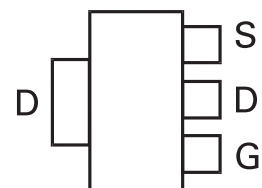
APPLICATIONS

- 50W Class D Audio Output Stage
- Motor Control



ORDERING INFORMATION

DEVICE	REEL SIZE	TAPE WIDTH	QUANTITY PER REEL
ZXM64P035GTA	7"	12mm	1000 units
ZXM64P035GTC	13"	12mm	4000 units



Top View

DEVICE MARKING

- ZXM6
4P035

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ABSOLUTE MAXIMUM RATING

PARAMETER	SYMBOL	LIMIT	UNIT
Drain-Source Voltage	V _{DSS}	-35	V
Gate-Source Voltage	V _{GS}	±20	V
Continuous Drain Current (V _{GS} = -10V; T _A =25°C)(b) (V _{GS} = -10V; T _A =70°C)(b) (V _{GS} = -10V; T _A =25°C)(a)	I _D	-5.3 -4.3 -3.8	A
Pulsed Drain Current (c)	I _{DM}	-19	A
Continuous Source Current (Body Diode) (b)	I _S	-2.3	A
Pulsed Source Current (Body Diode)(c)	I _{SM}	-19	A
Power Dissipation at T _A =25°C (a) Linear Derating Factor	P _D	2.0 16	W mW/°C
Power Dissipation at T _A =25°C (b) Linear Derating Factor	P _D	3.9 31	W mW/°C
Operating and Storage Temperature Range	T _j ;T _{stg}	-55 to +150	°C

THERMAL RESISTANCE

PARAMETER	SYMBOL	VALUE	UNIT
Junction to Ambient (a)	R _{θJA}	62.5	°C/W
Junction to Ambient (b)	R _{θJA}	32	°C/W

NOTES

(a) For a device surface mounted on 25mm x 25mm FR4 PCB with high coverage of single sided 1oz copper, in still air conditions

(b) For a device surface mounted on FR4 PCB measured at t≤10 secs.

(c) Repetitive rating 25mm x 25mm FR4 PCB, D=0.05 pulse width limited by maximum junction temperature.

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ELECTRICAL CHARACTERISTICS (at $T_A = 25^\circ\text{C}$ unless otherwise stated).

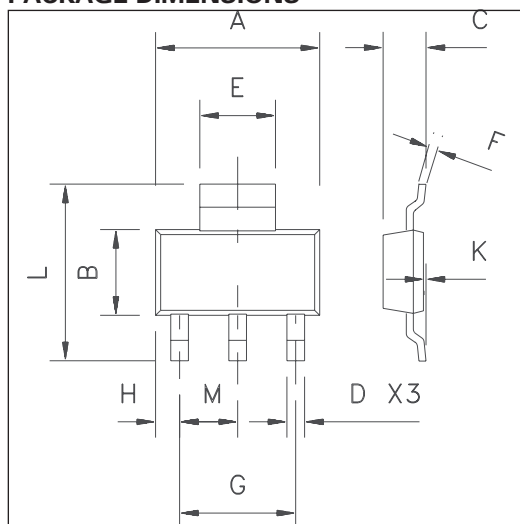
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
STATIC						
Drain-Source Breakdown Voltage	V(BR)DSS	-35			V	ID=-250μA, VGS=0V
Zero Gate Voltage Drain Current	IDSS			-1	μA	VDS=-35V, VGS=0V
Gate-Body Leakage	IGSS			± 100	nA	VGS=±20V, VDS=0V
Gate-Source Threshold Voltage	VGS(th)	-1.0			V	ID=-250μA, VDS= VGS
Static Drain-Source On-State Resistance (1)	RDS(on)			0.075 0.105	Ω Ω	VGS=-10V, ID=-2.4A VGS=-4.5V, ID=-1.2A
Forward Transconductance (1)(3)	gfs	2.3			S	VDS=-10V,ID=-1.2A
DYNAMIC (3)						
Input Capacitance	Ciss		825		pF	VDS=-25V, VGS=0V, f=1MHz
Output Capacitance	Coss		250		pF	
Reverse Transfer Capacitance	Crss		80		pF	
SWITCHING(2) (3)						
Turn-On Delay Time	td(on)		4.4		ns	VDD = -15V, ID=-2.4A RG=6.0Ω, VGS=-10V
Rise Time	tr		6.2		ns	
Turn-Off Delay Time	td(off)		40		ns	
Fall Time	tf		29.2		ns	
Total Gate Charge	Qg			46	nC	VDS=-24V,VGS=-10V, ID=-2.4A
Gate-Source Charge	Qgs			9	nC	
Gate-Drain Charge	Qgd			11.5	nC	
SOURCE-DRAIN DIODE						
Diode Forward Voltage (1)	VSD			-0.95	V	TJ=25°C, IS=-2.4A, VGS=0V
Reverse Recovery Time (3)	trr		30.2		ns	TJ=25°C, IF=-2.4A, di/dt= 100A/μs
Reverse Recovery Charge (3)	Qrr		27.8		nC	

NOTES

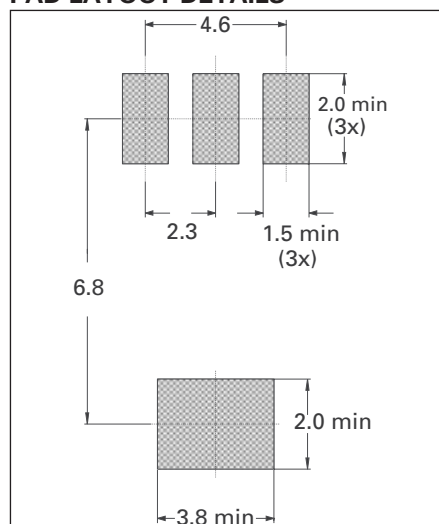
- (1) Measured under pulsed conditions. Width=300 μs . Duty cycle $\leq 2\%$.
- (2) Switching characteristics are independent of operating junction temperature.
- (3) For design aid only, not subject to production testing.

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PACKAGE DIMENSIONS



PAD LAYOUT DETAILS



DIM	Millimetres		Inches	
	Min	Max	Min	Max
A	6.3	6.7	0.248	0.264
B	3.3	3.7	0.130	0.146
C	-	1.7	-	0.067
D	0.6	0.8	0.024	0.031
E	2.9	3.1	0.114	0.122
F	0.24	0.32	0.009	0.13
G	NOM 4.6		NOM 0.181	
H	0.85	1.05	0.033	0.041
K	0.02	0.10	0.0008	0.004
L	6.7	7.3	0.264	0.287
M	NOM 2.3		NOM 0.0905	

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