



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!



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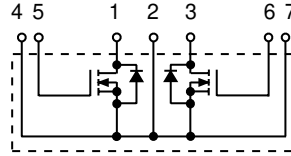
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Dual Power MOSFET Module

VMK 165-007T
 $V_{DSS} = 70 \text{ V}$
 $I_{D25} = 165 \text{ A}$
 $R_{DS(on)} = 7 \text{ m}\Omega$

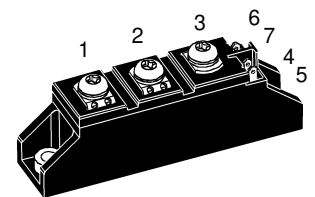
Common-Source connected
N-Channel Enhancement Mode



Symbol	Conditions	Maximum Ratings	
V_{DSS}	$T_J = 25^\circ\text{C}$ to 150°C	70	V
V_{DGR}	$T_J = 25^\circ\text{C}$ to 150°C ; $R_{GS} = 6.8 \text{ k}\Omega$	70	V
V_{GS}	Continuous	± 20	V
V_{GSM}	Transient	± 30	V
I_{D25}	$T_C = 25^\circ\text{C}$	165	A
I_D	$T_C = 100^\circ\text{C}$	104	A
I_{DM}	$T_C = 25^\circ\text{C}$, $t_p = 10 \mu\text{s}$, pulse width limited by T_{JM}	660	A
P_{tot}	$T_C = 25^\circ\text{C}$, $T_J = 150^\circ\text{C}$	390	W
T_J		$-40 \dots +150$	$^\circ\text{C}$
T_{JM}		150	$^\circ\text{C}$
T_{stg}		$-40 \dots +125$	$^\circ\text{C}$
V_{ISOL}	50/60 Hz $I_{ISOL} \leq 1 \text{ mA}$	$t = 1 \text{ min}$ $t = 1 \text{ s}$	3000 3600 V~ V~
M_d	Mounting torque(M5 or 10-32 UNF) Terminal connection torque (M5)	2.5-4.0/22-35 Nm/lb.in. 2.5-4.0/22-35 Nm/lb.in.	
Weight	Typical including screws	90	g

TO-240 AA

E 72873



1, 3 = Drain, 2 = Common Source
5, 6 = Gate, 4, 7 = Kelvin Source

Features

- Two MOSFET with common source
- International standard package JEDEC TO-240 AA
- Direct copper bonded Al_2O_3 ceramic base plate
- Isolation voltage 3000 V~
- Low $R_{DS(on)}$ HDMOS™ process
- Low package inductance for high speed switching
- Kelvin source contact
- Keyed twin plugs

Applications

- Push-pull inverters
- Switched-mode and resonant-mode power supplies
- Uninterruptible power supplies (UPS)
- AC static switches

Advantages

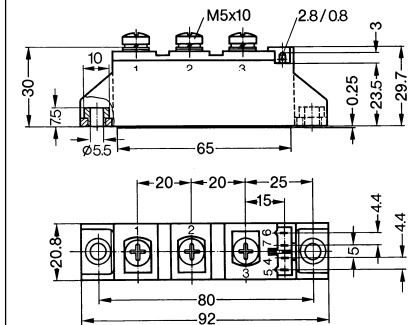
- Easy to mount with two screws
- Space and weight savings
- High power density
- Low losses

Symbol	Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
V_{DSS}	$V_{GS} = 0 \text{ V}$, $I_D = 1 \text{ mA}$	70		V
$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 8 \text{ mA}$	2		4 V
I_{GSS}	$V_{GS} = \pm 20 \text{ V DC}$, $V_{DS} = 0$			500 nA
I_{DSS}	$V_{DS} = V_{DSS}$, $V_{GS} = 0 \text{ V}$, $T_J = 25^\circ\text{C}$ $V_{DS} = 0.8 \cdot V_{DSS}$, $V_{GS} = 0 \text{ V}$, $T_J = 125^\circ\text{C}$			200 μA 1 mA
$R_{DS(on)}$	$V_{GS} = 10 \text{ V}$, $I_D = 0.5 \cdot I_{D25}$ Pulse test, $t \leq 300 \mu\text{s}$, duty cycle $d \leq 2 \%$		6	7 m Ω

Data per MOSFET unless otherwise stated.

Symbol	Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
g_{fs}	$V_{DS} = 10\text{ V}; I_D = 0.5 \cdot I_{D25}$ pulsed	60	80	S
C_{iss}	$V_{GS} = 0\text{ V}, V_{DS} = 25\text{ V}, f = 1\text{ MHz}$		8.8	nF
C_{oss}			4.0	nF
C_{rss}			2.4	nF
$t_{d(on)}$	$V_{GS} = 10\text{ V}, V_{DS} = 0.5 \cdot V_{DSS}, I_D = 0.5 \cdot I_{D25}$ $R_G = 1\ \Omega$ (External), resistive load		120	ns
t_r			280	ns
$t_{d(off)}$			390	ns
t_f			110	ns
Q_g	$V_{GS} = 10\text{ V}, V_{DS} = 0.5 \cdot V_{DSS}, I_D = 0.5 \cdot I_{D25}$		480	nC
Q_{gs}			60	nC
Q_{gd}			240	nC
R_{thJC}	with heat transfer paste			0.32 K/W
R_{thCH}			0.2	K/W
d_s	Creepage distance on surface	12.7		mm
d_A	Strike distance through air	9.6		mm
a	Max. allowable acceleration		50	m/s^2

TO-240 AA Outline



Dimensions in mm (1 mm = 0.0394")

Source-Drain Diode

Symbol	Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
I_S	$V_{GS} = 0\text{ V}$			165 A
I_{SM}	Repetitive; pulse width limited by T_{JM}			660 A
V_{SD}	$I_F = I_S; V_{GS} = 0\text{ V},$ Pulse test, $t \leq 300\ \mu\text{s}$, duty cycle $d \leq 2\%$			1.5 V
t_{rr}	$I_F = 50\text{ A}, -di/dt = 200\text{ A}/\mu\text{s},$ $V_{DS} = 25\text{ V}, V_{GS} = 0\text{ V}$		150	ns