
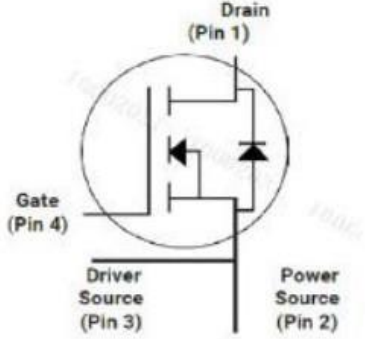


PMS0400065M



TO-247-4L

Circuit Diagram



Product Description

V_{DS}	650	V
$R_{(DS)on}$	40	mohm

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit	Test Conditions
Drain - Source Voltage	V_{DSmax}	650	V	$V_{GS}=0V, I_D=100\mu A, T_C=25^\circ C$
Gate - Source Voltage	V_{GSmax}	-10/+22		$t_p \leq 0.5 \mu s, D < 0.001, T_C=25^\circ C$
Gate - Source Voltage	V_{GSop}	-5/+15		Recommended, $T_C=25^\circ C$
Continuous Drain Current	I_D	49	A	$V_{GS}=15V, T_C=25^\circ C$
		35		$V_{GS}=15V, T_C=100^\circ C$
Operating temperature and storage temperature	T_J, T_{stg}	-55~175	$^\circ C$	

PMS0400065M
650V/40mohm Silicon Carbide Power MOSFET

Electrical Characteristics ($T_j = 25^\circ\text{C}$, unless otherwise specified)

Parameter	Symbol	Values			Unit	Test Condition
		Min.	Typ.	Max.		
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	650			V	$V_{GS}=0V, I_D=100\mu A$
Gate Threshold Voltage	$V_{GS(th)}$	2.4	2.6	3.4		$V_{DS}=V_{GS}, I_D=5mA$
		1.6	1.8			$V_{DS}=V_{GS}, I_D=5mA, T_j=175^\circ\text{C}$
Zero Gate Voltage Drain Current	I_{DSS}		1	100	μA	$V_{DS}=650V, V_{GS}=0V$
Gate-Source Leakage Current	I_{GSS}		1	250	nA	$V_{GS}=15V, V_{DS}=0V$
Drain-Source On-State Resistance	$R_{DS(on)}$		34	52	m Ω	$V_{GS}=15V, I_D=17.6A$
			35			$V_{GS}=15V, I_D=17.6A, T_j=175^\circ\text{C}$
			26		m Ω	$V_{GS}=18V, I_D=17.6A$
			34			$V_{GS}=18V, I_D=17.6A, T_j=175^\circ\text{C}$

Reverse Diode Characteristics

Parameter	Symbol	Typ.	Max.	Unit	Test Conditions
Diode Forward Voltage	V_{SD}	3.5		V	$V_{GS}=-5V, I_{SD}=8.8A$
		2.8			$V_{GS}=-5V, I_{SD}=8.8A, T_j=175^\circ\text{C}$

Note: When using SiC Body Diode the maximum recommended $V_{GS} = -5V$