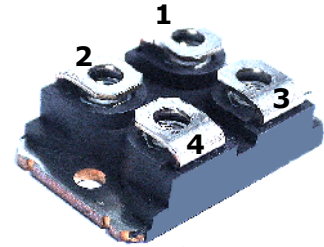
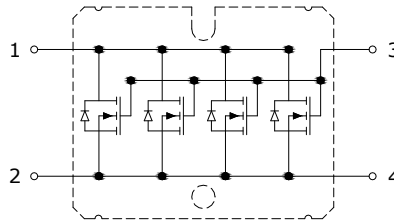


PRELIMINARY DATASHEET
**800V, 4x15A N-Channel CoolMOS™ in Parallel
 In SOT227 Package**

- Extreme dv/dt rated
- High peak current capability
- Low R_{thJC}
- Low $R_{ds(on)}$
- Pb-free lead finish; RoHS compliant


MAXIMUM RATINGS, $T_C = 25^\circ\text{C}$ unless otherwise noted

Parameter	Symbol	Value	Units
Drain-Source voltage	V_{DSS}	800	V
Gate-Source voltage AC ($f > 1$ Hz)	V_{GS}	+/- 30	
Continuous drain current $T_C = 25^\circ\text{C}$ $T_C = 100^\circ\text{C}$	I_D	60 38	A
Pulsed drain current, pulse width limited by T_{jmax}	I_{DM}	180	
Continuous diode forward current	I_S	60	
Diode pulse current, limited by T_{jmax}	$I_{S,pulse}$	180	
MOSFET dv/dt ruggedness $V_{DS} = 0..640\text{V}$	dV/dt	50	V/ns
Operating junction and storage temperature	T_j, T_{stg}	-55 to +150	$^\circ\text{C}$

Thermal and Isolation Characteristics

Parameter	Symbol	Max. Value	Units
Characteristics			
Thermal resistance, junction to case	R_{thJC}	0.18	$^\circ\text{C} / \text{W}$
Isolation voltage, RMS (measured between terminals and mounting base, 50-60 Hz, for 1-3 seconds)	V_{iso}	3000	V

ELECTRICAL CHARACTERISTICS, at $T_C = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Static Characteristics						
Drain-source breakdown voltage	BV_{DSS}	$V_{GS} = 0\text{V}, I_D = 1\text{mA}$	800	-	-	V
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 4.0\text{mA}$	2.1	3.0	3.9	
Drain-source diode forward voltage	V_{SD}	$V_{GS} = 0\text{V}, I_F = 60\text{A}$	-	1.0	1.2	V
Zero gate voltage drain current	I_{DSS}	$V_{GS} = 0\text{V}, V_{DS} = 800\text{V}$ $T_C = 25^\circ\text{C}$	-	-	100	μA
Gate-source leakage current	I_{GSS}	$V_{GS} = 20\text{V}, V_{DS} = 0\text{V}$	-	-	400	nA
Static drain-source On-resistance	$R_{DS(on)}$	$V_{GS} = 10\text{V}, I_D = 44\text{A}$ $T_C = 25^\circ\text{C}$	-	0.063	0.073	Ω
		$T_C = 150^\circ\text{C}$	-	0.168	-	
Dynamic Characteristics						
Input capacitance	C_{iss}	$V_{DS} = 100\text{V},$ $V_{GS} = 0\text{V},$ $f = 1.0\text{MHz}$	-	9200	-	pF
Output capacitance	C_{oss}		-	376	-	

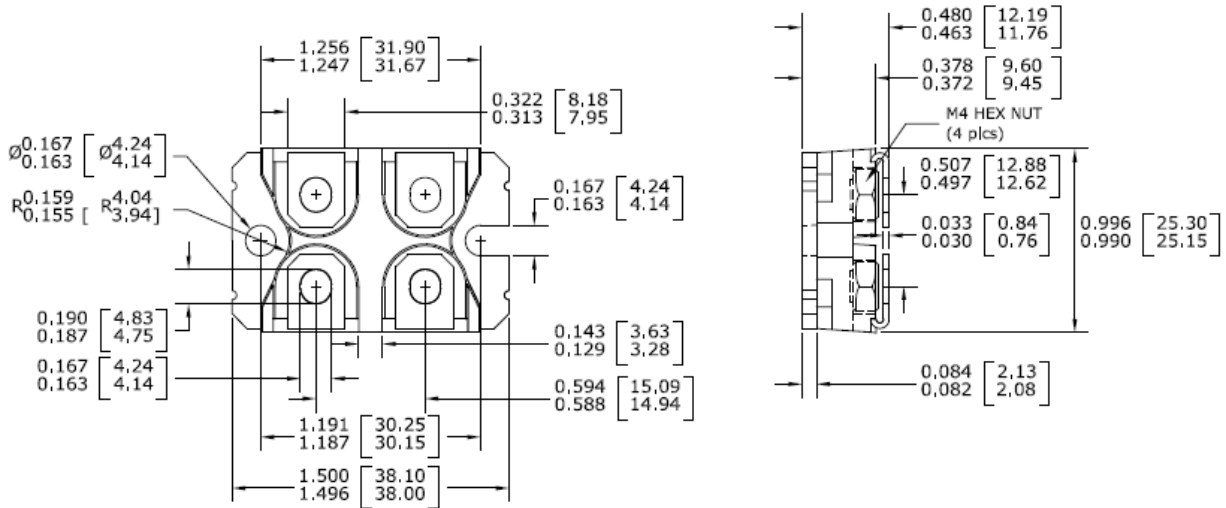
SWITCHING CHARACTERISTICS

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Turn-on delay time	$t_{d(on)}$	$V_{DD}=400V,$ $I_D=60A,$ $V_{GS}=10V,$ $R_G=1.2\Omega$	-	25	-	ns
Rise time	t_r		-	15	-	
Turn-off delay time	$t_{d(off)}$		-	72	-	
Fall time	t_f		-	12	-	
Gate charge	Q_g	$V_{DD} = 640V,$ $I_D = 60A,$ $V_{GS} = 0 \text{ to } 10V$	-	352	-	nC
Gate-source charge	Q_{gs}		-	48	-	
Gate-drain charge	Q_{gd}		-	180	-	

Drain-Source Diode Characteristics

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Reverse recovery time	t_{rr}	$V_R = 400V,$ $I_S = I_F = 15A$ $di_F/dt = 100A/\mu s$	-	550	-	ns
Reverse recovery charge	Q_{rr}		-	15	-	μC
Peak reverse recovery current	I_{rrm}		-	51	-	A

PACKAGE OUTLINE DRAWING



CoolMOS™ is a registered trademark of Infineon Technologies AG.

CAUTION: These devices are ESD sensitive. Use proper handling procedure.

Disclaimer

These specifications may not be considered as a guarantee of components characteristics. Components have to be tested depending on intended application as adjustments may be necessary. The use of **iQXPRZ Power Inc.** components in life support appliances and systems are subject to written approval of **iQXPRZ Power Inc.**