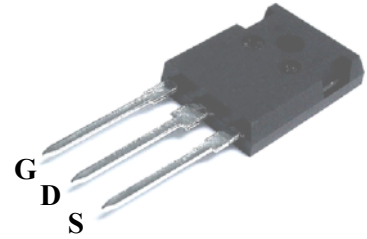
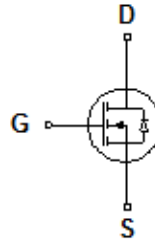


PRELIMINARY DATASHEET
**800V, 2x17A N-Channel CoolMOS™ Parallel
 In TO247 Package**

- Extreme dv/dt rated
- High peak current capability
- 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	34 22	A
Pulsed drain current, pulse width limited by T_{jmax}	I_{DM}	102	
Continuous diode forward current	I_S	34	
Diode pulse current ²	$I_{S,pulse}$	102	
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 Resistance

Parameter	Symbol	Max. Value	Units
Characteristics			
Thermal resistance, junction to case	R_{thJC}	0.28	$^\circ\text{C} / \text{W}$

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}	$V_{GS} = 0\text{V}, I_D = 500\mu\text{A}$	800	-	-	V
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 2.0\text{mA}$	2.1	3.0	3.9	
Drain-source diode forward voltage	V_{SD}	$V_{GS} = 0\text{V}, I_F = 34\text{A}$	-	1.0	1.2	V
Zero gate voltage drain current	I_{DSS}	$V_{GS} = 0\text{V}, V_{DS} = 800\text{V}$ $T_c = 25^\circ\text{C}$	-	-	50	μA
Gate-source leakage current	I_{GSS}	$V_{GS} = 20\text{V}, V_{DS} = 0\text{V}$	-	-	200	nA
Static drain-source On-resistance	$R_{DS(on)}$	$V_{GS} = 10\text{V}, I_D = 22\text{A}$ $T_c = 25^\circ\text{C}$	-	0.125	0.145	Ω

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

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Dynamic Characteristics						
Input capacitance	C_{iss}	$V_{DS} = 100\text{V}$,	-	4600	-	pF
Output capacitance	C_{oss}	$V_{GS} = 0\text{V}$, $f = 1.0\text{ MHz}$	-	188	-	

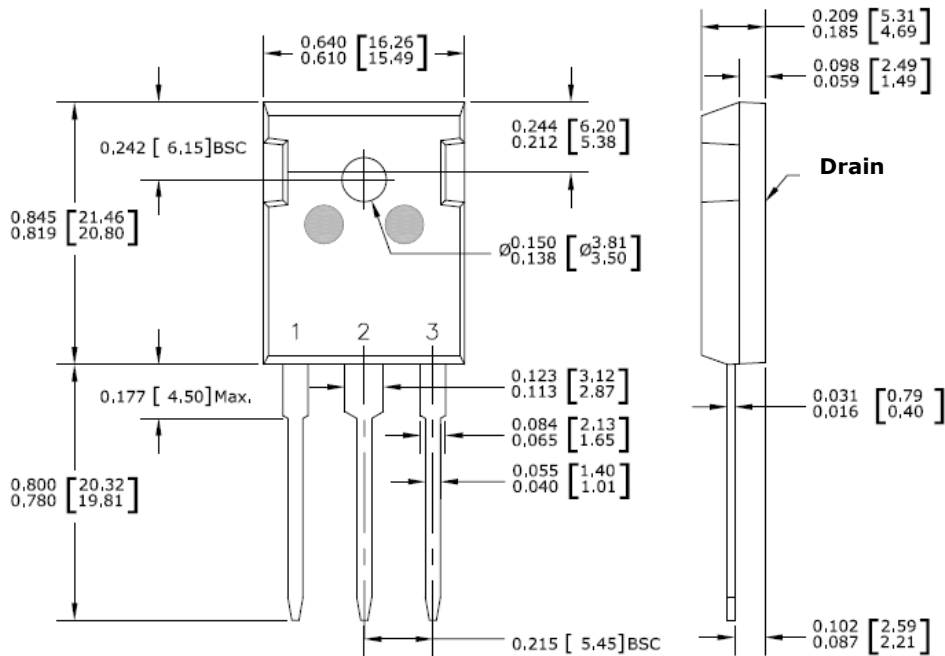
SWITCHING CHARACTERISTICS, at $T_c = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 400\text{V}$, $I_D = 34\text{A}$, $V_{GS} = 10\text{V}$, $R_G = 2.4\Omega$	-	25	-	ns
Rise time	t_r		-	15	-	
Turn-off delay time	$t_{d(off)}$		-	72	-	
Fall time	t_f		-	12	-	
Gate charge	Q_g	$V_{DD} = 640\text{V}$, $I_D = 34\text{A}$, $V_{GS} = 0\text{ to }10\text{V}$	-	176	-	nC
Gate-source charge	Q_{gs}		-	24	-	
Gate-drain charge	Q_{gd}		-	90	-	

Drain-Source Diode Characteristics, at $T_c = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Reverse recovery time	t_{rr}	$V_R = 400\text{V}$, $I_S = 17\text{A}$ $di_f/dt = 100\text{A}/\mu\text{s}$	-	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 Technoloaies

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.**