

PPAK5X6 Pin Configuration

BVDSS	RDSON	ID
150V	19mΩ	65A

FEATURES

150V,65A, RDS(ON) =19m @VGS = 10V
Improved dv/dt capability
Fast switching
100% EAS Guaranteed
Green Device Available

APPLICATIONS

Networking
Load Switch
LED applications
Quick Charger

MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Drain-Source Voltage	V _{DS}	150	V
Gate-Source Voltage	V _{GS}	±20	V
Drain Current – Continuous (T _C =25)	I _D	65	A
Drain Current – Continuous (T _C =100)		41	A
Drain Current – Pulsed ¹	I _{DM}	260	A
Single Pulse Avalanche Energy ²	EAS	153	mJ
Single Pulse Avalanche Current ²	IAS	17.5	A
Power Dissipation (T _C =25)	P _D	192	W
Power Dissipation – Derate abte			



PPAK5X6 Pin Configuration

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	150	---	---	V
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=120V, V_{GS}=0V, T_J=25$	---	---	1	μA
		$V_{DS}=120V, V_{GS}=0V, T_J=85$	---	---	10	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	---	---	± 100	nA

Static Drain-Source On-Resistance ³	$R_{DS(ON)}$	$V_{GS}=10V, I_D=25A$	---	16	19	m Ω
Gate Threshold Voltage	$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	2	3	4	V
Forward Transconductance	gfs	$V_{DS}=10V, I_D=3A$	---	11	---	S

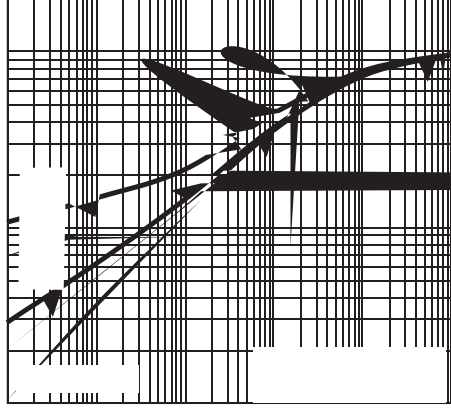
Total Gate Charge ^{3, 4}	Q_g	$V_{DS}=75V, V_{GS}=10V, I_D=30A$	---	39	60	nC
Gate-Source Charge ^{3, 4}	Q_{gs}		---	9.5	15	
Gate-Drain Charge ^{3, 4}	Q_{gd}		---	15	23	
Turn-On Delay Time ^{3, 4}	$T_{d(on)}$	$V_{DD}=75V, V_{GS}=10V, R_G=6\Omega, I_D=30A$	---	15	23	ns
Rise Time ^{3, 4}	T_r		---	28	42	
Turn-Off Delay Time ^{3, 4}	$T_{d(off)}$		---	45	68	
Fall Time ^{3, 4}	T_f		---	32	48	
Input Capacitance	C_{iss}	$V_{DS}=75V, V_{GS}=0V, F=1MHz$	---	2300	3450	pF
Output Capacitance	C_{oss}		---	220	330	
Reverse Transfer Capacitance	C_{rss}		---	10	15	
Gate Resistance	R_g	$V_{GS}=0V, V_{DS}=0V, F=1MHz$	---	1.5	---	Ω

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Continuous Source Current	I_S	$V_G=V_D=0V, \text{Force Current}$	---	---	65	A
Pulsed Source Current	I_{SM}		---	---	130	A
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=1A, T_J=25$	---	---	1	V
Reverse Recovery Time ³	t_{rr}	$V_R=100V, I_S=10A$ $di/dt=100A/\mu s, T_J=25$	---	90	---	ns
Reverse Recovery Charge ³	Q_{rr}		---	355	---	nC

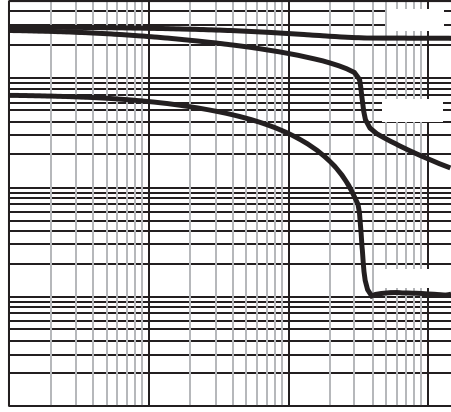
Note :

1. Repetitive Rating : Pulsed width limited by maximum junction temperature.
2. $V_{DD}=50V, V_{GS}=10V, L=1mH, I_{AS}=17.5A, R_G=25\Omega$ Starting $T_J=25$
3. The data tested by pulsed , pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
4. Essentially independent of operating temperature.

Normalized Thermal Response

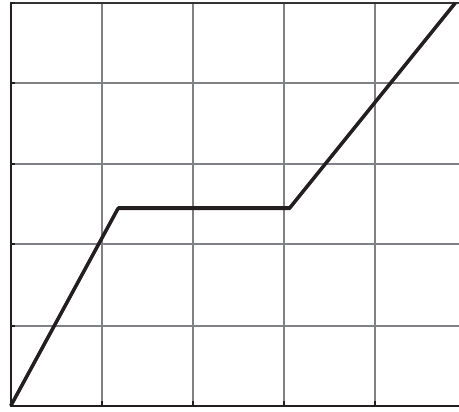


Capacitance (pF)



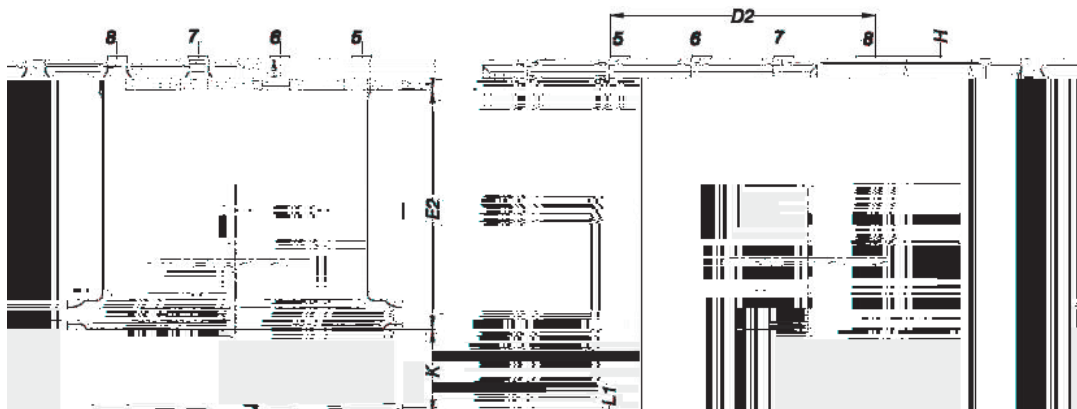
I_D

V_{GS} , Gate to Source Voltage (V)





PPAK5x6 PACKAGE INFORMATION



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MAX	MIN	MAX	MIN
A	1.200	0.850	0.047	0.031
b	0.510	0.330	0.020	0.013
C	0.300	0.200	0.012	0.008
D1	5.400	4.800	0.212	0.189
D2	4.310	3.610	0.170	0.142
E	6.300	5.850	0.248	0.230
E1	5.960	5.450	0.235	0.215
E2	3.920	3.300	0.154	0.130
e	1.27BSC		0.05BSC	
H	0.650	0.380	0.026	0.015
K	---	1.100	---	0.043
L	0.710	0.380	0.028	0.015
L1	0.250	0.050	0.009	0.002
	12°	0°	12°	0°