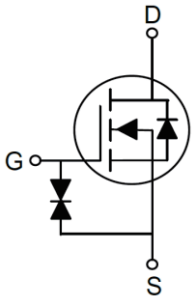
DACO SEMICONDUCTOR CO.,LTD.

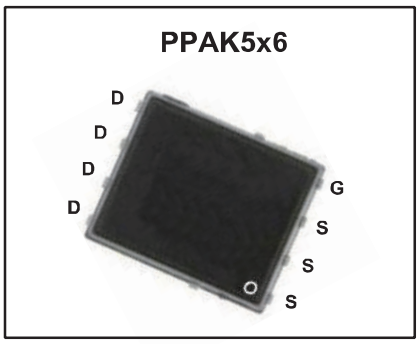
DAME60N30G

N-Channel Enhancement Mode MOSFET

Features

- V_{DSS} = 30V
- $R_{DS(ON)}$ Typ.6.2mΩ @ V_{GS} = 10V
- Fully Avalanche Rated
- Pb Free & RoHS Compliant
- 100% EAS Guaranteed
- G-S ESD Protection Diode Embedded



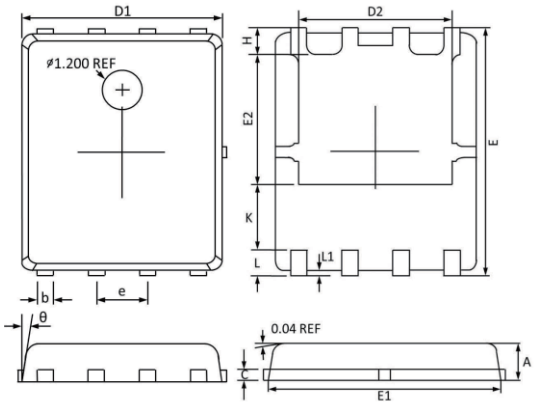


Applications

- MB / VGA / Vcore
- POL Applications
- SMPS 2nd SR

Absolute Maximum Ratings (TC=25°C unless otherwise noted)

Parameter	Symbol	Ratings	Unit
Drain Source Voltage	V_{DS}	30	V
Gate Source Voltage	V_{GS}	±20	V
Drain Current Continuous @ T_C = 25°C @ T_C = 100°C	I_D	60 38	A
Drain Current Pulsed@ T_C = 25°C	I_{DM}	240	A
Single Pulse Avalanche Energy	EAS	45	mJ
Single Pulse Avalanche Current	IAS	30	A
Maximum Power Dissipation	P_D	54	W
Storage Temperature Range	T_{STG}	-55 to +150	°C
Operating Junction Temperature Range	T_J	-55 to +150	°C
Thermal Resistance Junction to Case Note3	$R_{\theta JC}$	2.3	°C/W



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MAX	MIN	MAX	MIN
A	1.100	0.800	0.043	0.031
b	0.510	0.330	0.020	0.013
C	0.300	0.200	0.012	0.008
D1	5.100	4.800	0.201	0.189
D2	4.100	3.610	0.161	0.142
E	6.200	5.900	0.244	0.232
E1	5.900	5.700	0.232	0.224
E2	3.780	3.350	0.149	0.132
e	1.27BSC		0.05BSC	
H	0.700	0.410	0.028	0.016
K	1.500	1.100	0.059	0.043
L	0.710	0.510	0.028	0.020
L1	0.200	0.060	0.008	0.002
θ	12°	0°	12°	0°

Electrical Characteristics @ T_J=25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
OFF Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V , I_{DS}=250uA	30	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{GS}=0V , V_{DS}=30V	-	-	1	uA
Gate-Body Leakage	I_{GSS}	V_{GS}=±20V , V_{DS}=0V	-	-	±10	uA
ON Characteristics						
Gate Threshold Voltage	V_{TH}	V_{DS}=V_{GS} , I_{DS}=250uA	1.2	1.6	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V , I_{DS}=16A	-	6.2	8.5	mΩ
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=25V V_{GS}=0V Freq.=1MHz	-	680	1000	pF
Output Capacitance	C_{oss}		-	150	220	
Reverse Transfer Capacitance	C_{rss}		-	70	105	
Switching Characteristics						
Turn-On Delay Time	$T_{d(on)}$	V_{DD}=15V V_{GS}=10V R_G =3.3Ω I_{DS}=15A	-	4.8	9	ns
Rise Time	T_r		-	12.5	24	
Turn-Off Delay Time	$T_{d(off)}$		-	27.6	52	
Fall Time	T_f		-	8.2	16	
Total Gate Charge	Q_g	V_{DS}=15V V_{GS}=4.5V I_{DS}=20A	-	7.5	12	nC
Gate to Source Charge	Q_{gs}		-	1.3	2.6	
Gate to Drain Charge	Q_{gd}		-	4.5	8	
Drain-Source Diode Characteristics						
Diode Forward Voltage	V_{SD}	V_{GS}=0V , I_S=1A	-	-	1	V

Notes:

1. Pulse Test: Pulse Width ≦ 300μs, Duty Cycle ≦ 2%.
2. V_{DD}=25V,V_{GS}=10V,L=0.1mH,I_{AS}=30A. R_G=25Ω, Starting T_J=25°C
3. $R_{\theta JA}$ is the sum of the junction-to-case and case-to-ambient thermal resistance where the case thermal reference is defined as the solder mounting surface of the drain pins. $R_{\theta JC}$ is guaranteed by design while $R_{\theta CA}$ is determined by the user's board design. $R_{\theta JA}$ shown below for single device operation on FR-4 in still air.

Typical Characteristics

Fig.1 Continuous Drain Current vs. T_C

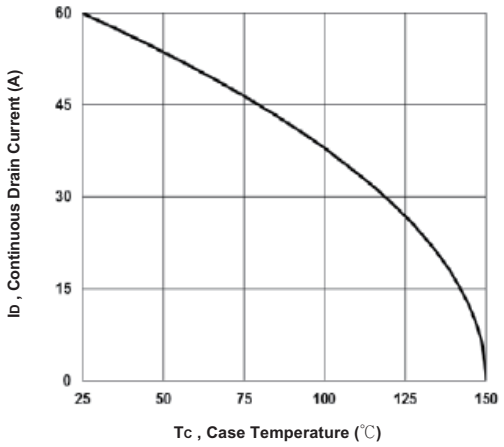


Fig.2 Normalized RDSON vs. T_J

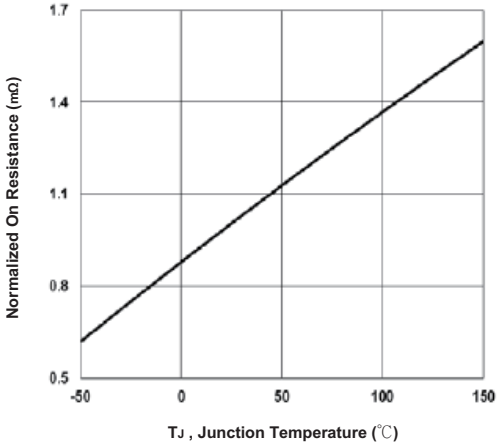


Fig.3 Normalized Vth vs. T_J

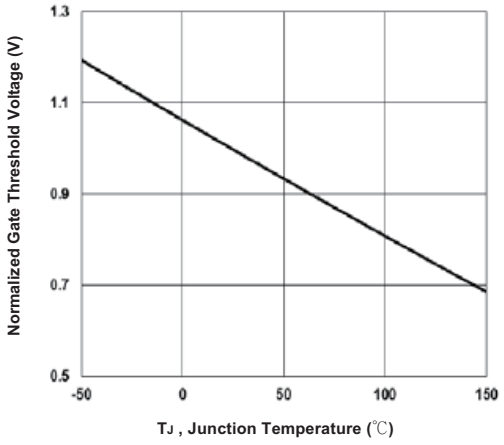


Fig.4 Gate Charge Waveform

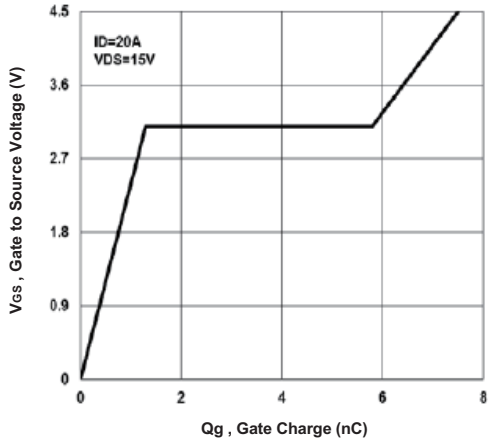


Fig.5 Normalized Transient Impedance

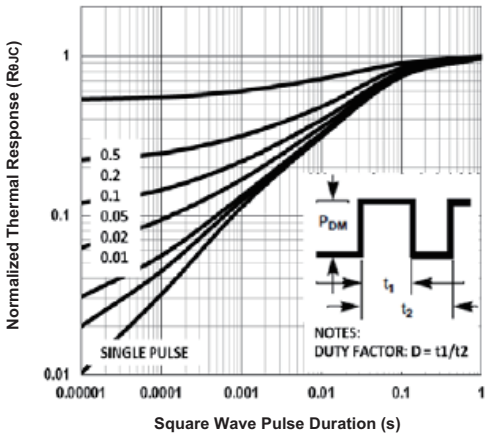
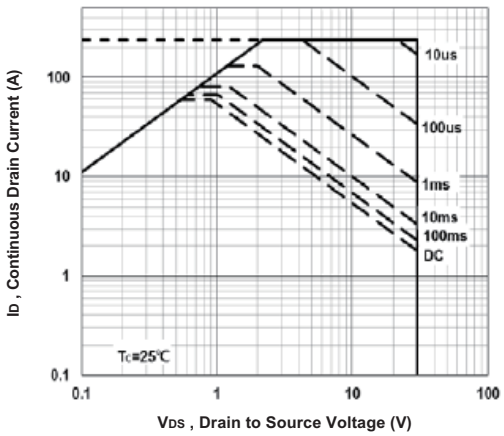


Fig.6 Maximum Safe Operation Area



Typical Characteristics

Fig.7 Switching Time Waveform

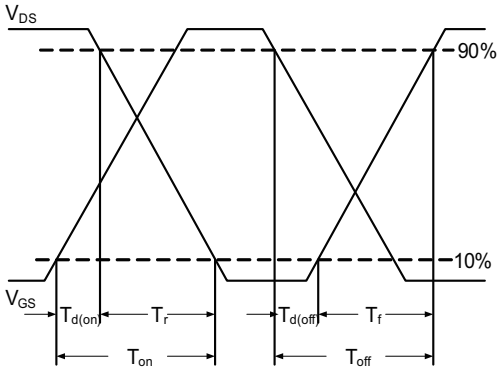


Fig.8 EAS Waveform

