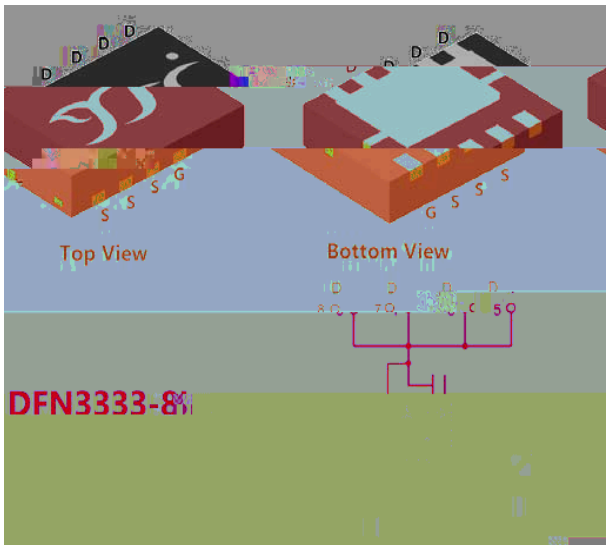


- V_{DS} 40V
- I_D 35A
- $R_{DS(ON)}$(at V_{GS}=10V) 8.0mΩ
- $R_{DS(ON)}$(at V_{GS}=4.5V) 13.0mΩ
- 100% EAS Tested

- Excellent package for heat dissipation
- High density cell design for low $R_{DS(ON)}$
- Part no. with suffix "Q" means AEC-Q101 qualified

- Power switching application
- Uninterruptible power supply
- DC-DC convertor
- 12V Automotive systems

■ (T_A=25 unless otherwise noted)

Drain-source Voltage		V_{DS}	40	V
Gate-source Voltage		V_{GS}	± 20	V
Drain Current	T_A=25	I_D	12.5	A
	T_A =100		8	
	T_C=25		35	
	T_C =100		33	
Pulsed Drain Current [A]		I_{DM}	160	A
Avalanche energy [B]		EAS	144	mJ
Total Power Dissipation [C]	T_A=25	P_D	2.2	W
	T_A =100		0.9	
	T_C=25		40	
	T_C =100		16	
Thermal Resistance Junction-to-Case	Steady-State	$R_{\theta JC}$	3.1	/W
Thermal Resistance Junction-to-Ambient [D]	Steady-State	$R_{\theta JA}$	55	/W
Junction and Storage Temperature Range		T_J ,T_{STG}	-55 +150	

■ (Example)

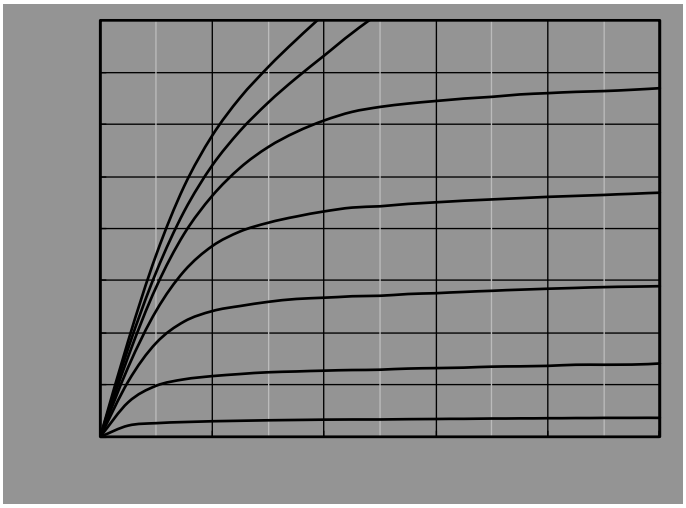
YJQ35N04AQ	F1	Q35N04	5000	10000	100000	13" reel

■ (T_J=25 unless otherwise noted)

Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}= 0V, I_D=250μA	40	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=40V, V_{GS}=0V	-	-	1	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS}= ±20V, V_{DS}=0V	-	-	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}= V_{GS}, I_D=250μA	1.0	1.5	2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=20A	-	5.5	8.0	mΩ
		V_{GS}=4.5V, I_D=10A	-	7.5	13	
Diode Forward Voltage	V_{SD}	I_S=20A, V_{GS}=0V	-	0.9	1.2	V
Gate resistance	R_G	f=1MHz	-	1.7	-	Ω
Input Capacitance	C_{iss}	V_{DS}=25V, V_{GS}=0V, f=1MHz	-	2020		pF
Output Capacitance	C_{oss}		-	220		
Reverse Transfer Capacitance	C_{rss}		-	175		
Total Gate Charge	Q_g	V_{GS}=10V, V_{DS}=20V, I_D=20A	-	46	-	nC
Gate-Source Charge	Q_{gs}		-	6	-	
Gate-Drain Charge	Q_{gd}		-	11	-	
Reverse Recovery Charge	Q_{rr}	I_F=20A, di/dt=300A/us	-	20	-	nC
Reverse Recovery Time	t_{rr}		-	21	-	ns
Turn-on Delay Time	$t_{D(on)}$	V_{GS}=10V,V_{DD}=20V,I_{DS}=20A	-	7	-	ns
Turn-on Rise Time	t_r		-	56	-	
Turn-off Delay Time	$t_{D(off)}$		-	39	-	
Turn-off fall Time	t_f		-	2.6	-	

DD
is based on max. junction temperature, using junction-case thermal resistance.

D. The value of $R_{\theta JA}$ is measured with the device mounted on 1 in^2 FR-4 board with 2oz. Copper, in the still air environment with $_A$=25 .
T h e . The value in any given applica x t i i imf i co buo a m d m d



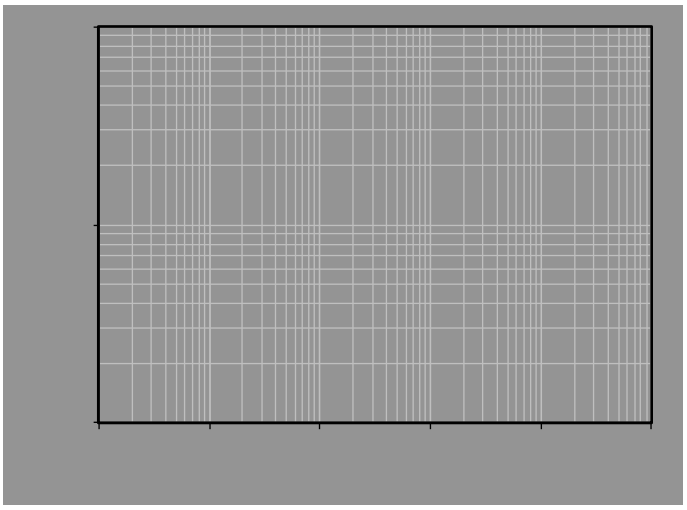


Figure 13. Maximum Transient Thermal Impedance

Figure 14. Safe Operation Area

v') 1 / 3 D F N D J H L Q I R U P D W L R Q

The information presented in this document is for reference onl