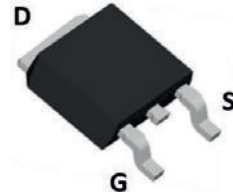
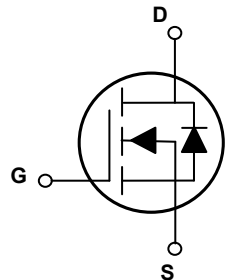


Main Product Characteristics

$V_{(BR)DSS}$	600V
$R_{DS(ON)}$	0.88Ω (max.)
I_D	5A



TO-252 (DPAK)



Schematic Diagram

Features and Benefits

- Advanced MOSFET process technology
- Ideal for high efficiency switched mode power supplies
- Low on-resistance with low gate charge
- Fast switching and reverse body recovery
- AEC-Q101 qualified



Description

The GSJD60R880AU utilizes the latest techniques to achieve high cell density and low on-resistance. These features make this device extremely efficient and reliable for use in high efficiency switch mode power supplies and a wide variety of other applications.

Absolute Maximum Ratings ($T_C=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Parameter.	Unit
Drain-Source Voltage	V_{DS}	600	V
Gate-to-Source Voltage	V_{GS}	±30	V
Continuous Drain Current, @ Steady-State ($T_C=25^{\circ}\text{C}$)	I_D	5	A
Continuous Drain Current, @ Steady-State ($T_C=100^{\circ}\text{C}$)		3.2	A
Pulsed Drain Current	I_{DM}	20	A
Power Dissipation ($T_C=25^{\circ}\text{C}$)	P_D	45	W
		0.3	W/°C
Single Pulse Avalanche Energy ¹	E_{AS}	214	mJ
Body Diode Reverse Voltage Slope ²	dv/dt	15	V/ns
MOS dv/dt Reggedness ³	dv/dt	50	V/ns
Junction-to-Ambient (PCB Mounted, Steady-State)	$R_{\theta JA}$	62	°C/W
Junction-to-Case	$R_{\theta JC}$	3.3	°C/W
Operating Junction and Storage Temperature Range	T_J/T_{STG}	-55 to + 150	°C

Electrical Characteristics (T_C=25°C unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
On / Off Characteristics						
Drain-to-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	600	-	-	V
Drain-to-Source Leakage Current	I _{DSS}	V _{DS} =600V, V _{GS} =0V	-	-	1	nA
Gate-to-Source Forward Leakage	I _{GSS}	V _{DS} =0V, V _{GS} =30V	-	-	100	nA
		V _{DS} =0V, V _{GS} =-30V	-	-	-100	
Static Drain-to-Source On-Resistance	R _{DS(ON)}	V _{GS} =10V, I _D =2.5A, T _J =25°C	-	0.7	0.88	Ω
		V _{GS} =10V, I _D =2.5A, T _J =125°C	-	1.4	-	Ω
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	2.0	-	4.0	V
Dynamic and Switching Characteristics						
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =100V, f=1MHz	-	305	-	pF
Output Capacitance	C _{oss}		-	20	-	
Reverse Transfer Capacitance	C _{rss}		-	1.8	-	
Total Gate Charge ^{4,5}	Q _g	I _D =5A, V _{DD} =480V, V _{GS} =10V	-	12	-	nC
Gate-to-Source Charge ^{4,5}	Q _{gs}		-	2.7	-	
Gate-to-Drain ("Miller") Charge ^{4,5}	Q _{gd}		-	6.4	-	
Turn-On Delay Time ^{4,5}	t _{d(on)}	V _{DD} =300V, V _{GS} =10V, R _G =24Ω, I _D =5A	-	8	-	nS
Rise Time ^{4,5}	t _r		-	26	-	
Turn-Off Delay Time ^{4,5}	t _{d(off)}		-	32	-	
Fall Time ^{4,5}	t _f		-	24	-	
Gate Resistance	R _g	f=1MHz	-	3.6	-	Ω
Source-Drain Ratings and Characteristics						
Continuous Source Current (Body Diode)	I _S	T _C =25°C, MOSFET symbol showing the integral reverse p-n junction diode.	-	-	5	A
Source Pulse Current	I _{SM}		-	-	20	A
Diode Forward Voltage	V _{SD}	I _S =5A, V _{GS} =0V	-	-	1.4	V
Reverse Recovery Time ³	T _{rr}	I _F =5A, V _{GS} =0V, dI _F /dt=100A/us	-	320	-	nS
Reverse Recovery Charge ³	Q _{rr}		-	1.9	-	μC

Notes:

1. L=79mH, I_{AS}=2.2A, V_{DD}=100V, R_G=25Ω starting temperature T_J=25°C.
2. V_{DS}=0-400V, I_{SD}≤5A, T_J=25°C.
3. V_{DS}=0-480V.
4. Pulse test: pulse width ≤ 300μs, duty cycle ≤ 2%.
5. Essentially independent of operating temperature.

Typical Electrical and Thermal Characteristic Curves

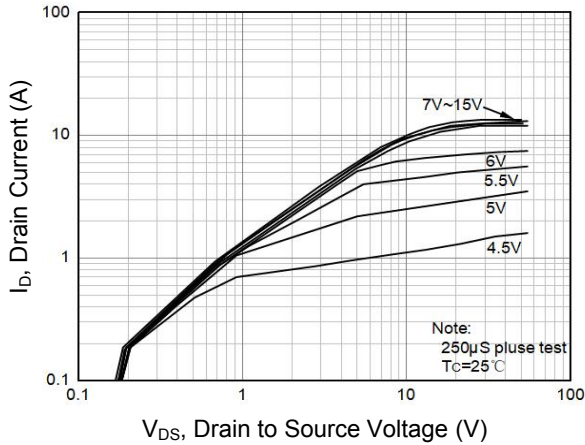


Figure 1. Typical Output Characteristics

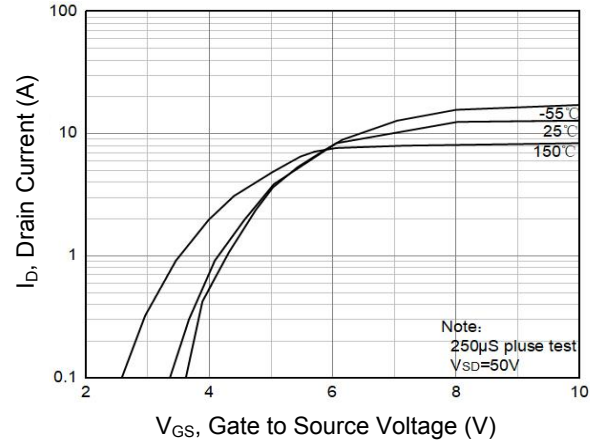


Figure 2. Transfer Characteristics

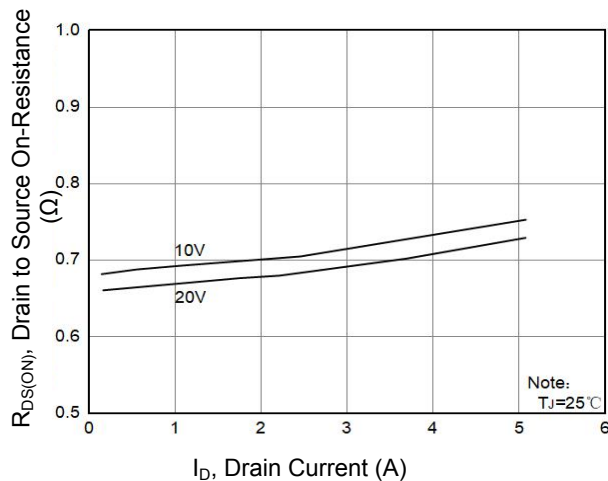


Figure 3. $R_{DS(ON)}$ Vs. Drain Current

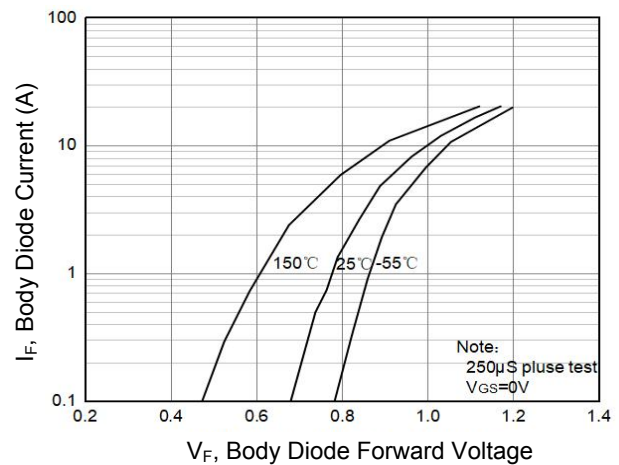


Figure 4. Body Diode Characteristics

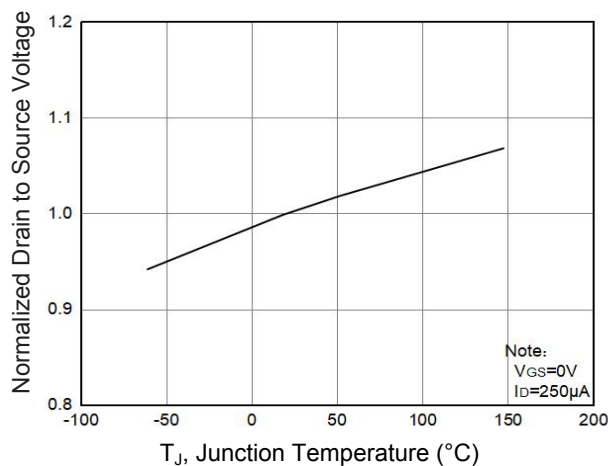


Figure 5. Normalized BV_{DS} Vs. T_J

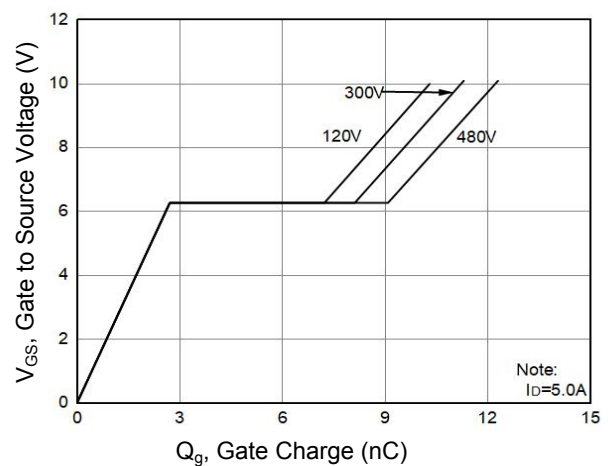


Figure 6. Gate Charge

Typical Electrical and Thermal Characteristic Curves

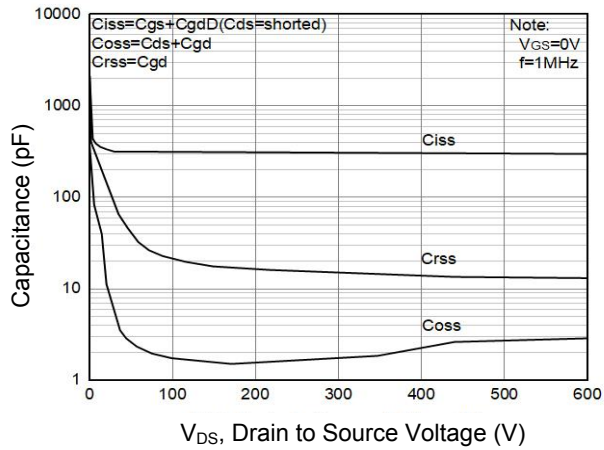


Figure 7. Capacitance Characteristics

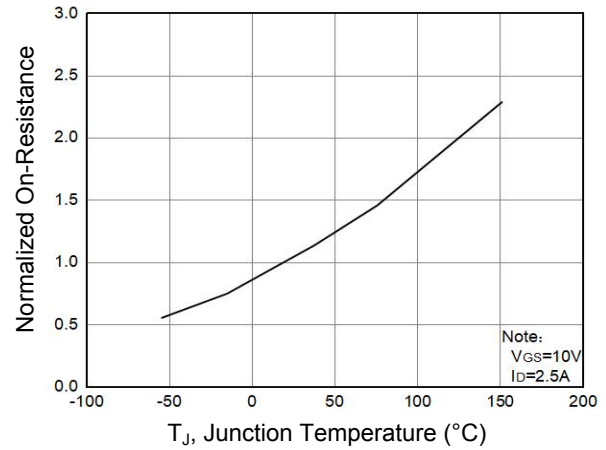


Figure 8. Normalized $R_{DS(ON)}$ Vs. T_J

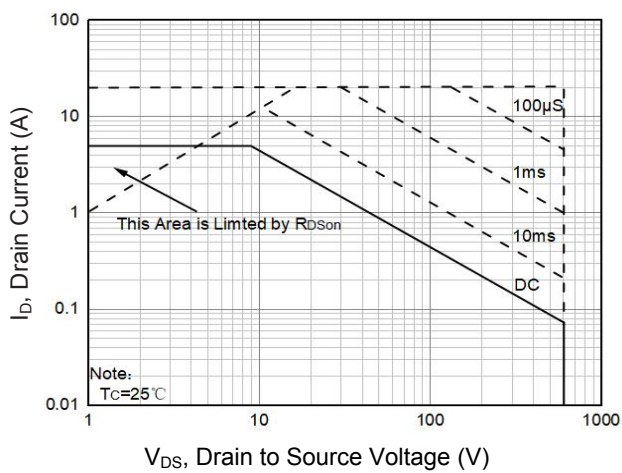
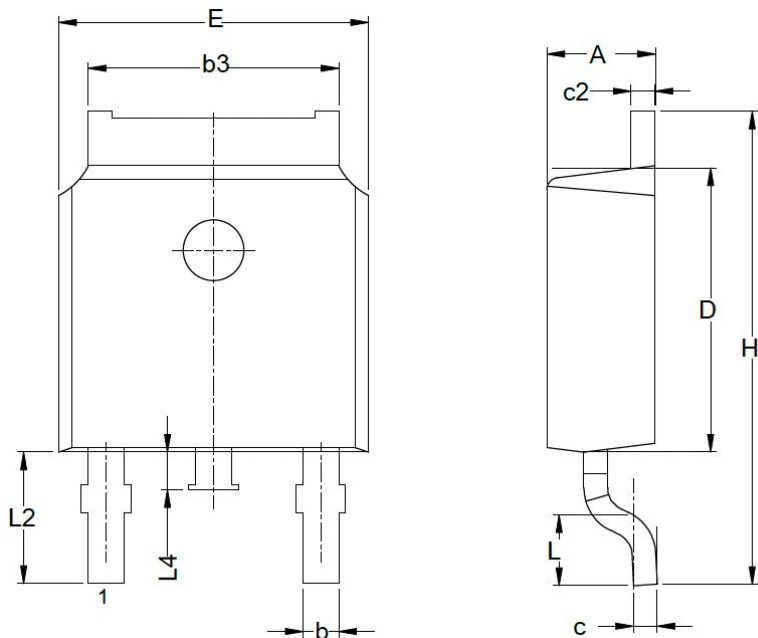


Figure 9. Safe Operation Area

Package Outline Dimensions TO-252(DPAK)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	2.500	0.055	0.098
b	0.500	0.900	0.020	0.035
b3	5.100	5.500	0.201	0.217
c	0.400	0.650	0.016	0.026
c2	0.460	0.580	0.018	0.023
D	5.400	6.400	0.213	0.252
E	6.300	6.900	0.248	0.272
e	2.186	2.386	0.086	0.094
H	9.400	10.300	0.370	0.406
L	1.390	1.770	0.055	0.070
L4	0.600	1.100	0.024	0.043
L2	2.850REF		0.112REF	

Order Information

Device	Package	Marking	Carrier	Quantity
GSJD60R880AU	TO-252 (DPAK)	D60R880AU	Tape & Reel	2,500pcs / Reel

For more information, please contact us at inquiry@goodarksemi.com