

P-Channel Enhancement-Mode MOSFET (-30V, -4.3A)


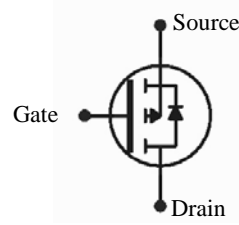
PRODUCT SUMMARY

V _{DSS}	I _D	R _{DS(on)} (mΩ) Max
-30V	-4.3A	60 @ V _{GS} = -10 V, I _D = -4.3A
		78 @ V _{GS} = -4.5V, I _D = -3.0A

Features

- Super high dense cell trench design for low R_{DS(on)}.
- Rugged and reliable.
- SOT-23-3L package
- Ordering information: GV3407-G (Lead(Pb)-free and halogen-free)

RoHS+HF

	<p>GV3407 Pin Assignment & Symbol</p> <p>3-Lead Plastic SOT-23-3L Pin 1: Gate 2: Source 3: Drain</p>	
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Absolute Maximum Ratings (T_A=25°C, unless otherwise noted)

Symbol	Parameter	Ratings	Units
V _{DS}	Drain-Source Voltage	-30	V
V _{GS}	Gate-Source Voltage	±20	V
I _D	Drain Current @ T _A =25°C	-4.3	A
I _{DM}	Drain Current (Pulsed) ^a	-20	A
I _S	Maximum Body-Diode Continuous Current	-2	A
P _D	Total Power Dissipation @ T _A =25°C	1.4	W
T _{stg}	Storage Temperature Range	-55 to +150	°C
T _j	Junction Temperature	150	°C
R _{θJA}	Thermal Resistance Junction to Ambient (PCB mounted) ^b	125	°C/W

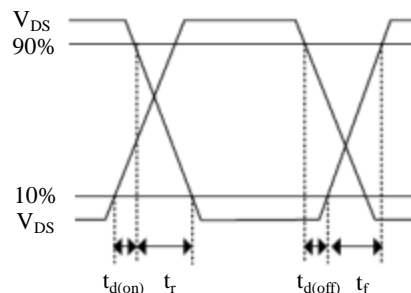
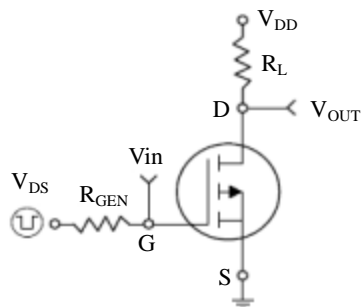
Note: a: Pulse width limited by the maximum junction temperature
b: 1-in² 2oz Cu PCB board

Electrical Characteristics ($T_A=25^\circ\text{C}$, unless otherwise noted)

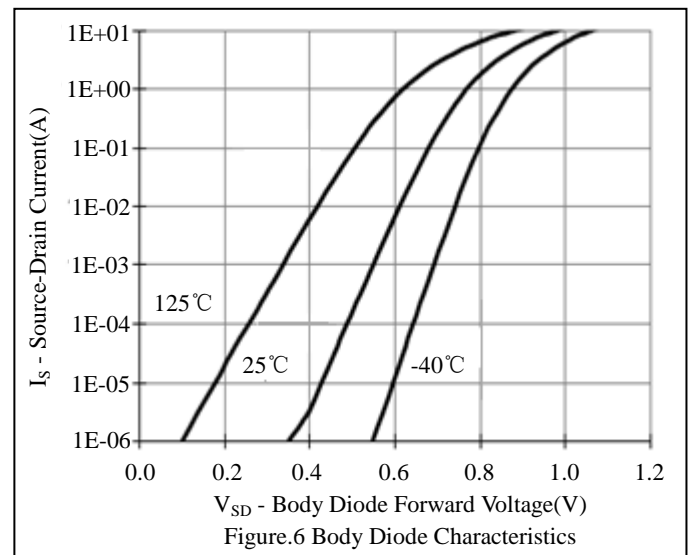
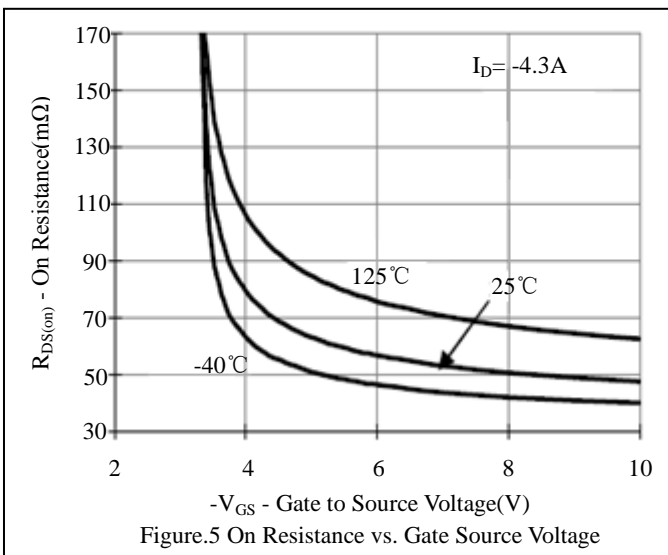
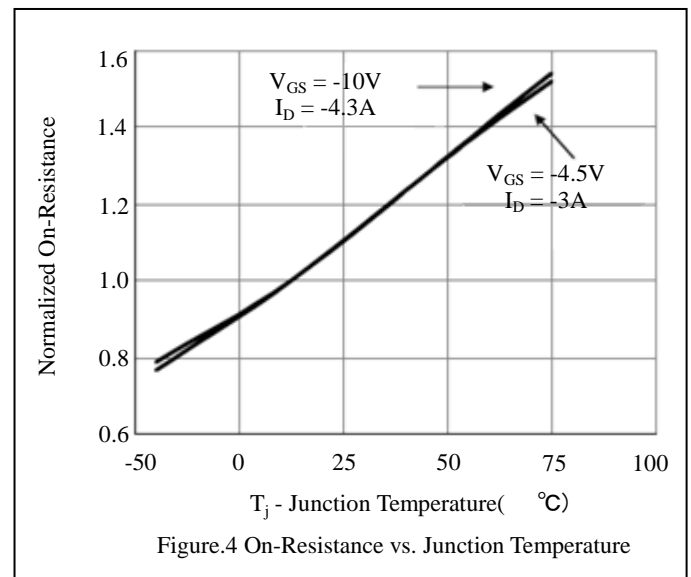
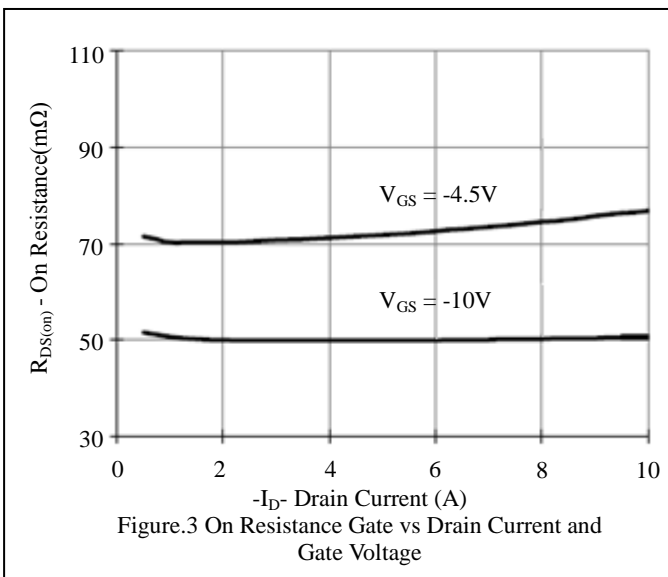
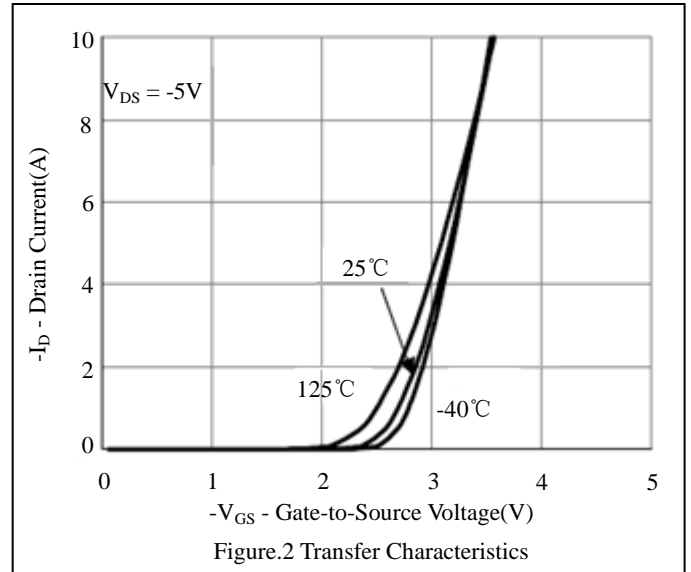
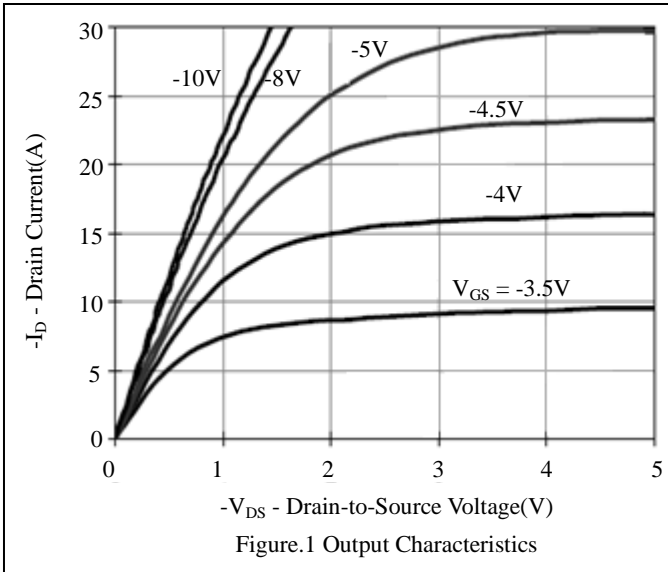
Symbol	Characteristic	Test Conditions	Min.	Typ.	Max.	Unit
• Off Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu A$	-30	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=-30V, V_{GS}=0V$	-	-	-1	μA
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$	-	-	± 100	nA
• On Characteristics ^c						
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1.0	-	-2.5	V
$I_{D(on)}$	On state drain current	$V_{DS}=-5V, V_{GS}=-10V$	-30	-	-	A
$R_{DS(on)}$	Drain-Source On-State Resistance	$V_{GS}=-10V, I_D=-4.3A$	-	55	60	m Ω
		$V_{GS}=-4.5V, I_D=-3.0A$	-	65	78	
g_{FS}	Forward Transconductance	$V_{DS}=-5V, I_D=-4.3A$	-	11	-	S
• Dynamic Characteristics ^d						
C_{iss}	Input Capacitance	$V_{DS}=-15V, V_{GS}=0V, f=1MHz$	-	668	-	pF
C_{oss}	Output Capacitance					
C_{rss}	Reverse Transfer Capacitance					
R_g	Gate resistance	$V_{DS}=0V, V_{GS}=0V, f=1MHz$	-	6	-	Ω
• Switching Characteristics ^d						
Q_g	Total Gate Charge (10V)	$V_{DS}=-15V, I_D=-4.3A, V_{GS}=-10V$	-	12.7	-	nC
Q_g	Total Gate Charge (4.5V)					
Q_{gs}	Gate-Source Charge					
Q_{gd}	Gate-Drain Charge					
$t_{d(on)}$	Turn-on Delay Time	$V_{DS}=-15V, V_{GS}=-10V, R_L=3.5\Omega, R_{GEN}=3\Omega$	-	7.7	-	nS
t_r	Turn-on Rise Time					
$t_{d(off)}$	Turn-off Delay Time					
t_f	Turn-off Fall Time					
• Drain-Source Diode Characteristics						
V_{SD}	Drain-Source Diode Forward Voltage	$V_{GS}=0V, I_S=-1.0A$	-	-	-1	V

Note: c: Pulse Test : Pulse Width < 300 μs , Duty Cycle < 2%

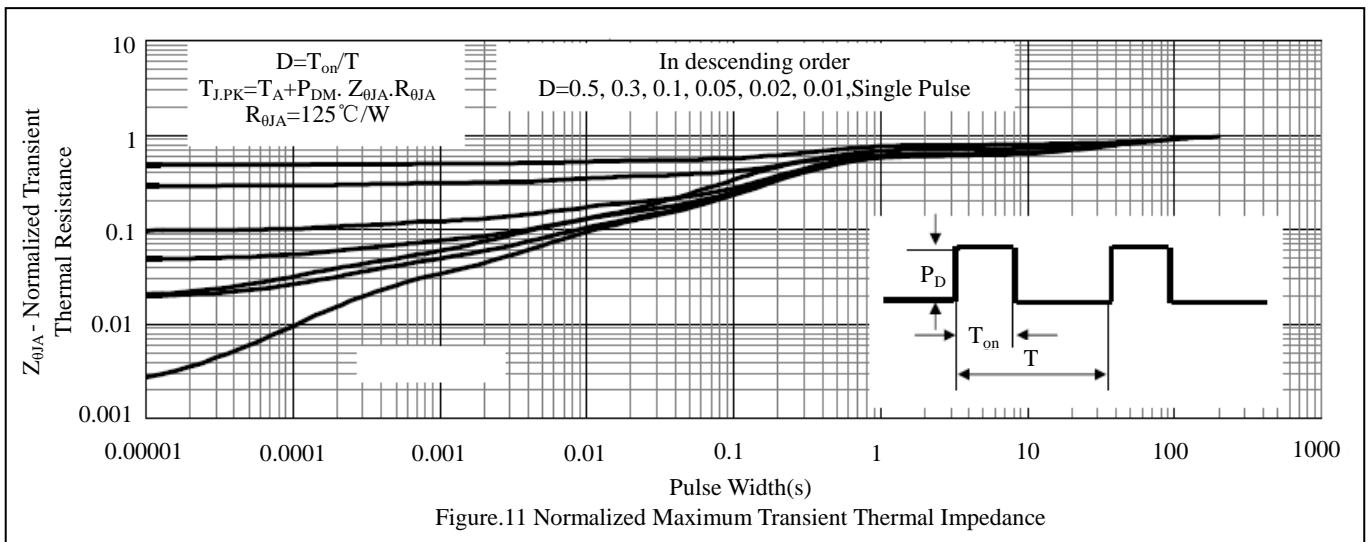
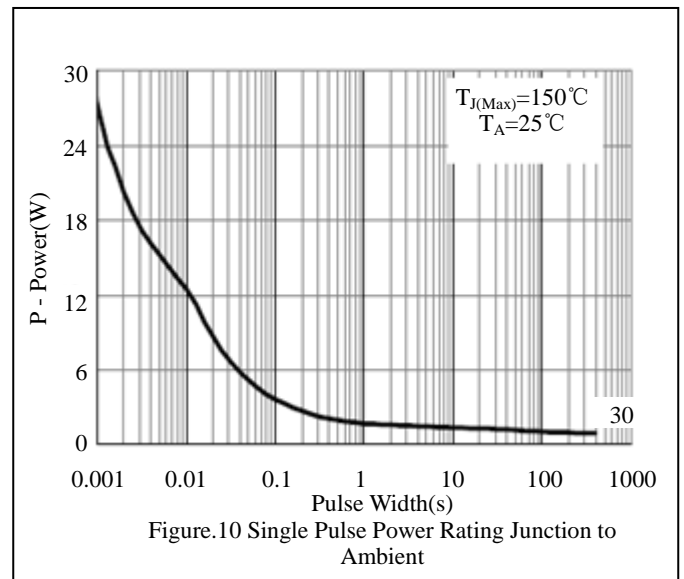
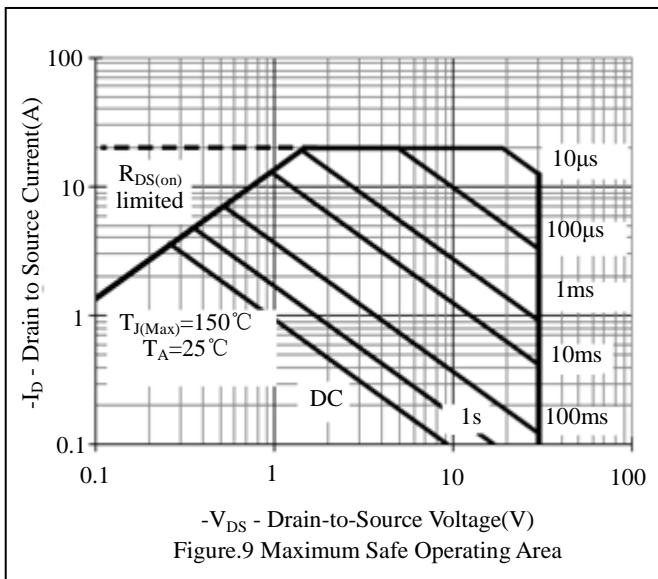
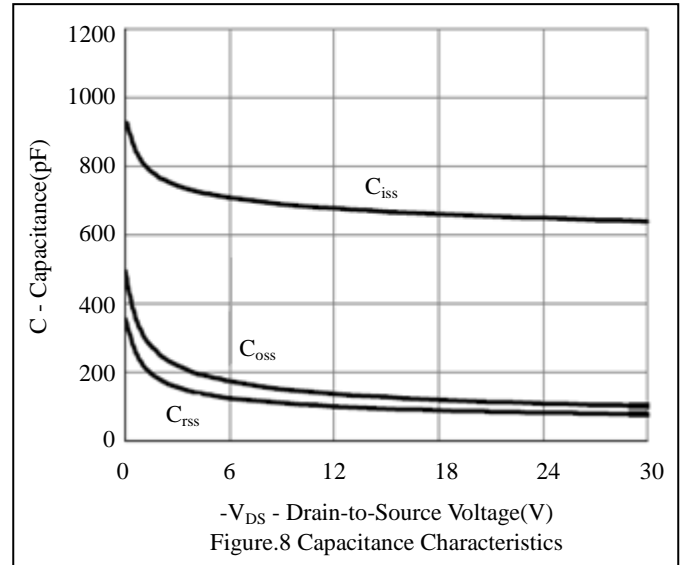
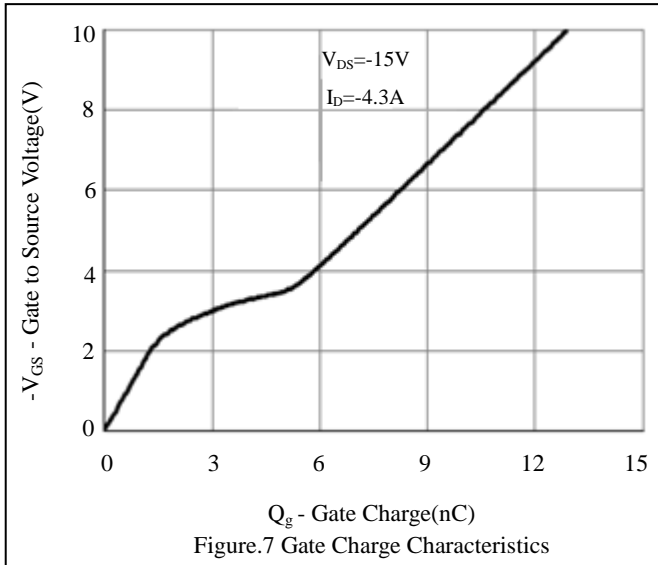
d: Guaranteed by design, not subject to production testing.



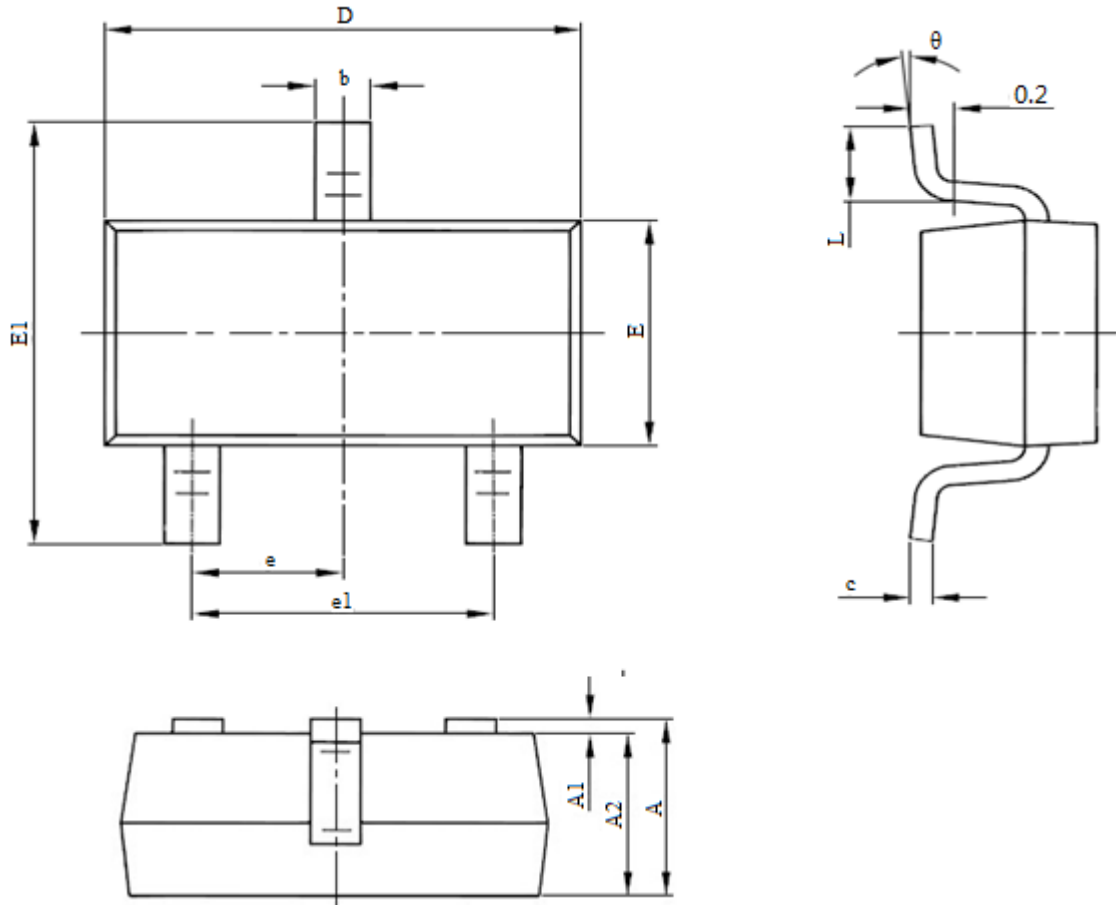
Characteristics Curve



Characteristics Curve



SOT-23-3L PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.85	1.25	0.033	0.049
A1	0	0.1	0	0.004
A2	0.7	1.15	0.028	0.045
b	0.3	0.5	0.012	0.020
c	0.1	0.2	0.004	0.008
D	2.82	3.02	0.111	0.119
E	1.5	1.7	0.059	0.067
E1	2.65	2.95	0.104	0.116
e	0.95(BSC)		0.037(BSC)	
e1	1.8	2	0.071	0.079
L	0.3	0.6	0.012	0.024
θ	0°	8°	0°	8°



Notice

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2. Stresses beyond those listed under “Absolute Maximum Ratings” may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.