



$V_{DS}$	-30V
$I_D$	-4.1A
$R_{DS(ON)}$ ( at $V_{GS}=-10V$ )	47m
$R_{DS(ON)}$ ( at $V_{GS}=-4.5V$ )	65m

Low  $R_{DS(on)}$  & FOM  
 Extremely low switching loss  
 Moisture Sensitivity Level 1  
 Epoxy Meets UL 94 V-0 Flammability Rating  
 Halogen Free  
 Part no. with suffix "Q" means AEC-Q101 qualified

Power management  
 Portable equipment

( $T_A=25$  unless otherwise noted)

Drain-source Voltage		$V_{DS}$	-30	V
Gate-source Voltage		$V_{GS}$	$\pm 20$	V
Drain Current	$T_A=25$	$I_D$	-4.1	A
	$T_A=100$		-2.5	
Pulsed Drain Current <sup>A</sup>		$I_{DM}$	-20	A
Total Power Dissipation <sup>B</sup>	$T_A=25$	$P_D$	1.2	W
	$T_A=100$			



( $T_J=25$  unless otherwise noted)

Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-30			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=-30V, V_{GS}=0V$			-1	$\mu A$
Gate-Body Leakage Current	$I_{GSS}$	$V_{GS}=\pm 20V, V_{DS}=0V$			$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1	-1.5	-2.4	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-4.1A$		35	47	m
		$V_{GS}=-4.5V, I_D=-3.5A$		50	65	m
Diode Forward Voltage	$V_{SD}$	$I_S=-4.1A, V_{GS}=0V$			-1.2	V
Gate resistance	$R_G$	$f=1MHz$		17.5		
Input Capacitance	$C_{iss}$	$V_{DS}=-15V, V_{GS}=0V, f=1MHz$		471		pF
Output Capacitance	$C_{oss}$			84		
Reverse Transfer Capacitance	$C_{rss}$			69		
Total Gate Charge	$Q_g$	$V_{GS}=-10V, V_{DS}=-15V, I_D=-4.1A$	-	9	-	nC
Gate-Source Charge	$Q_{gs}$		-	1.5	-	
Gate-Drain Charge	$Q_{gd}$		-	2.3	-	
Reverse Recovery Charge	$Q_{rr}$	$I_F=-4.1A, di/dt=100A/us$	-	12	-	nC
Reverse Recovery Time	$t_{rr}$		-	32	-	ns
Turn-on Delay Time	$t_{D(on)}$	$V_{GS}=-10V, V_{DD}=-15V, I_D=-4.1A$ $R_{GEN}=2.5$	-	9	-	ns
Turn-on Rise Time	$t_r$			3		
Turn-off Delay Time	$t_{D(off)}$			29		
Turn-off fall Time	$t_f$			15		

A. Repetitive rating; pulse width limited by max. junction temperature.

B.  $P_d$  is based on max. junction temperature, using junction-ambient thermal resistance.

C. The value of  $R_{JA}$  is measured with the device mounted on 1 in<sup>2</sup> FR-4 board with 2oz. Copper, in the still air environment with  $T_A=25$  . The maximum allowed junction temperature of 150 . The value in any given application depends on the user's specific board design.

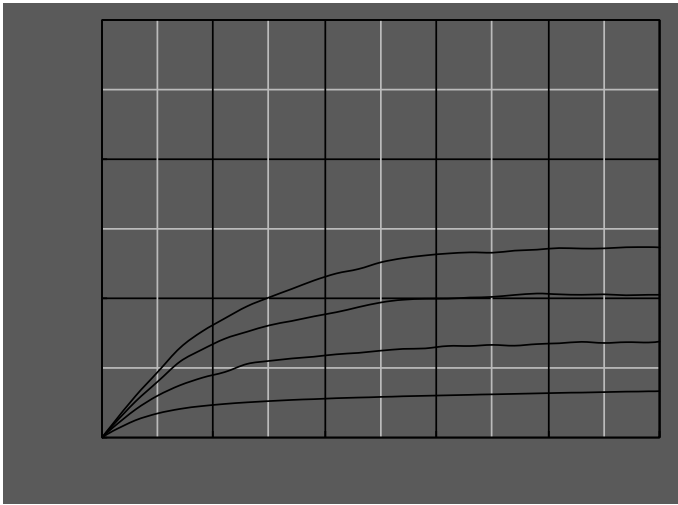


Figure 1. Output Characteristics

Figure 2. Transfer Characteristics

Figure 3. Capacitance Characteristics

Figure 4. Gate Charge

Figure 5. On-Resistance vs Gate to Source Voltage

Figure 6. Normalized On-Resistance

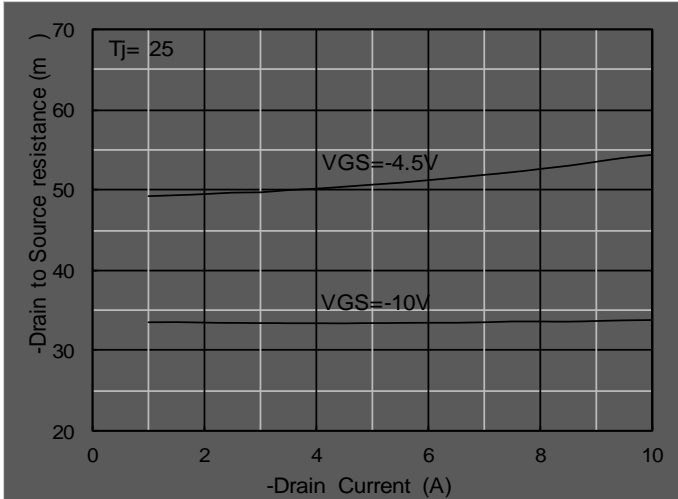


Figure 7. RDS(on) VS Drain Current

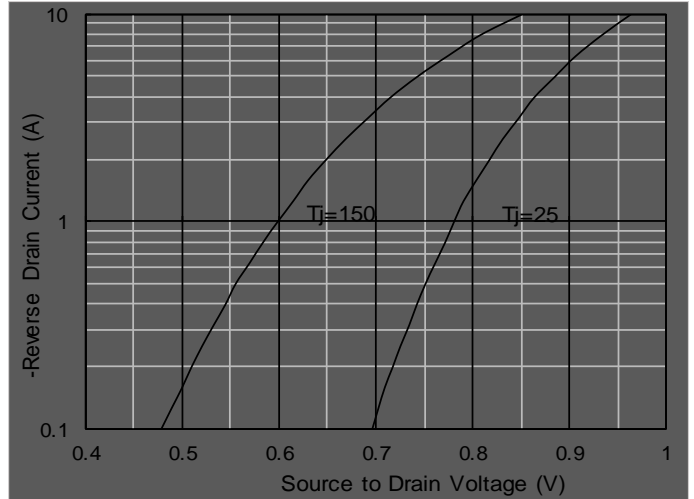


Figure 8. Forward characteristics of reverse diode

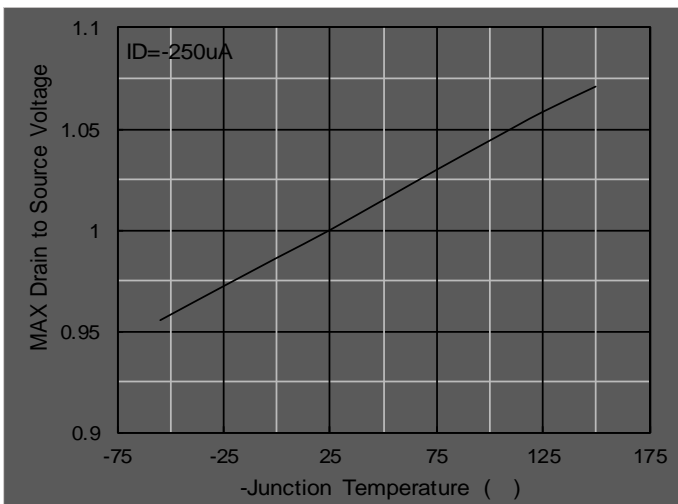


Figure 9. Normalized breakdown voltage

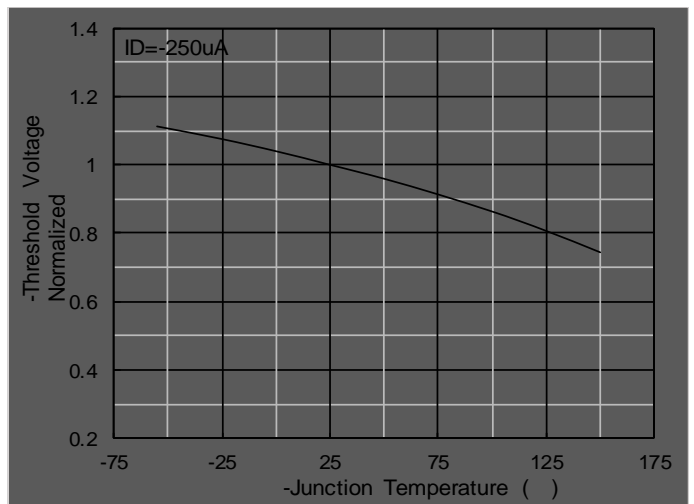


Figure 10. Normalized Threshold voltage

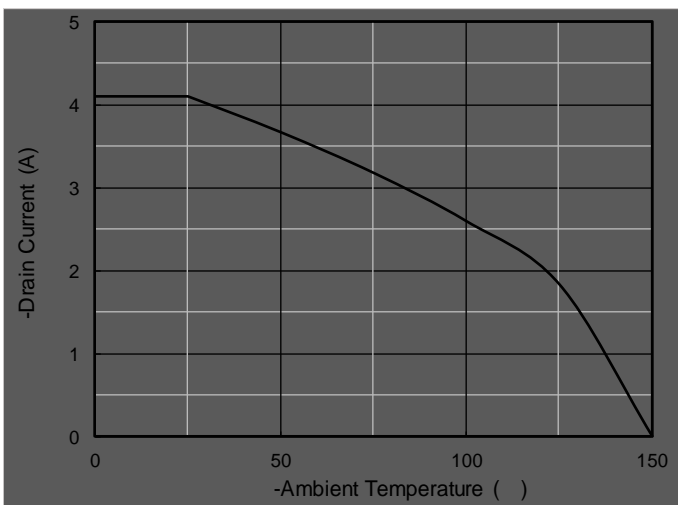


Figure 11. Current dissipation

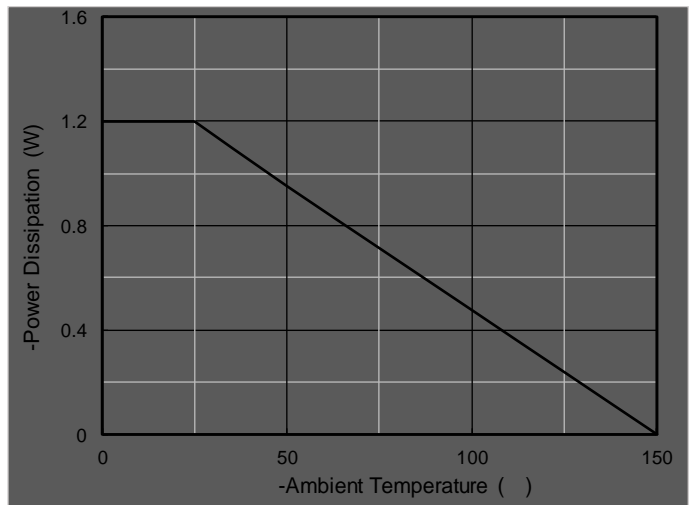
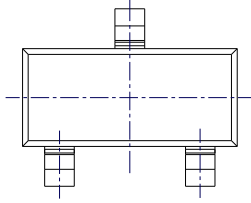
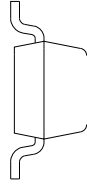


Figure 12. Power dissipation

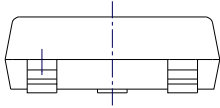




TOP VIEW



SIDE VIEW



UNIT mm

SUGGESTED SOLDER PAD LAYOUT



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