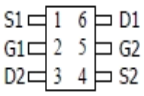
HM2302BWKR

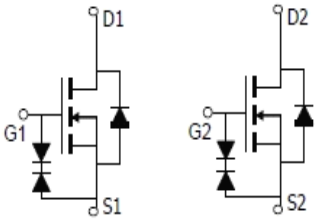
Features

- Low On resistance.
- 2.5V drive.
- RoHS compliant.

Package Dimensions

SC-70-6
(SOT-323)
Top View





Specifications

Absolute Maximum Ratings at T_a=25^{0}C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		20	V
Gate-to-Source Voltage	V_{GSS}		±8	V
Drain Current (DC)	I_D		1.0	A
Drain Current (Pulse)	I_{DP}	PW≤10uS, duty cycle≤1%	2	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (1000mm^2×0.8mm) 1unit	0.25	W
Total Dissipation	P_T	Mounted on a ceramic board (1000mm^2×0.8mm)	0.3	W
Channel Temperature	T_{ch}		150	^{0}C
Storage Temperature	T_{stg}		-55~+150	^{0}C

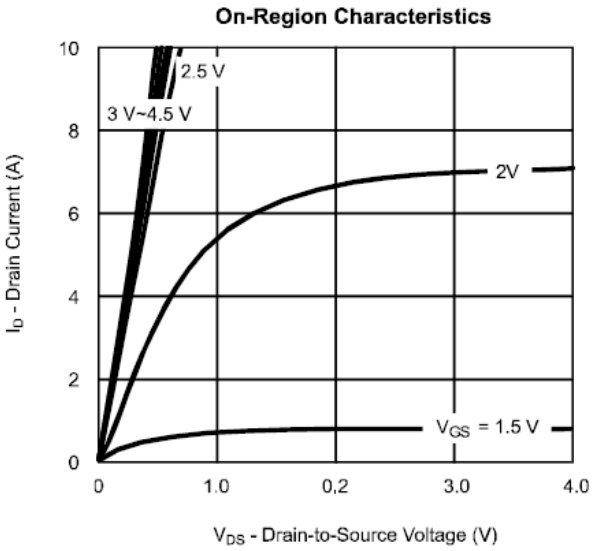
Electrical Characteristics at T_a=25^{0}C

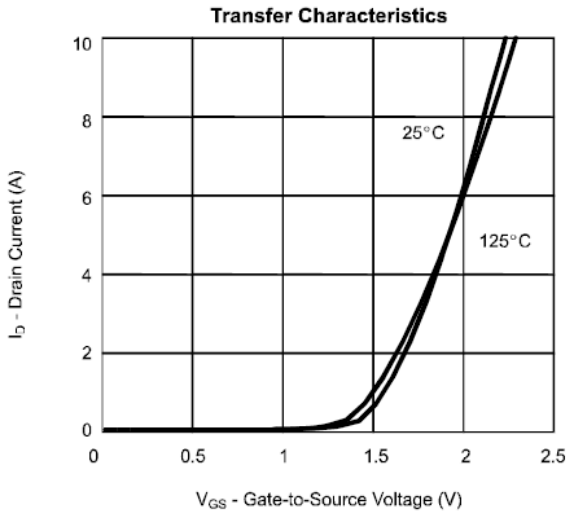
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D=250uA, V_{GS}=0V	20			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=16V, V_{GS}=0V			1	uA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±8V, V_{DS}=0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}= V_{GS}, I_D=250uA	0.5	0.7	1.0	V
Static Drain-to-Source On-State Resistance	$R_{DS(ON)}$	I_D=1A, V_{GS}=4.5V		60	80	mΩ
	$R_{DS(ON)}$	I_D=0.5A, V_{GS}=2.5V		85	110	mΩ
Input Capacitance	C_{iss}	V_{DS}=10V, V_{GS}=0V, f=1MHz		350		pF
Output Capacitance	C_{oss}	V_{DS}=10V, V_{GS}=0V, f=1MHz		100		pF
Reverse Transfer Capacitance	C_{rss}	V_{DS}=10V, V_{GS}=0V, f=1MHz		90		pF

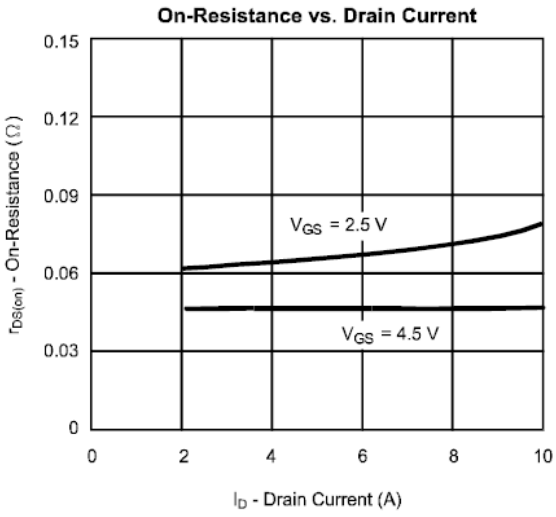
Electrical Characteristics at T_a=25^{0}C (Continued)

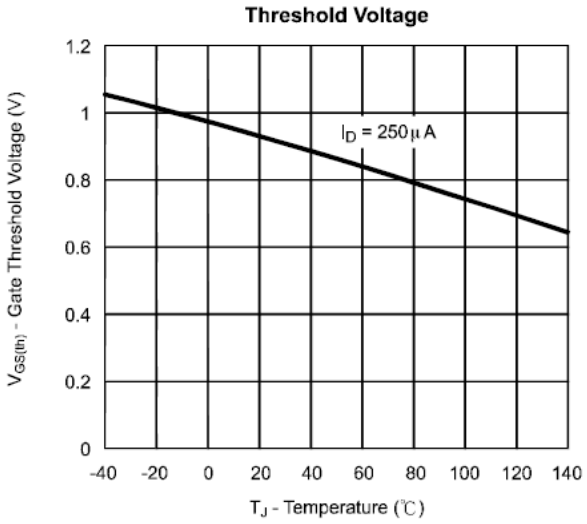
Parameter	Symbol	Conditions	Ratings			Unit
			min	Typ	max	
Turn-on Delay Time	$t_{d(on)}$	V_{DD}=10V, I_D=1.0A, R_L=2.8Ω, R_{GEN}=6Ω, V_{GEN}=4.5V		9		nS
Rise Time	t_r			23		nS
Turn-off Delay Time	$t_{d(off)}$			36		nS
Fall Time	t_f			4		nS
Total Gate Charge	Q_g	V_{DS}=10V, V_{GS}=4.5V, I_D=1A		9		nC
Gate-to-Source Charge	Q_{gs}			2.2		nC
Gate-to-Drain “Miller” Charge	Q_{gd}			3		nC
Diode Forward Voltage	V_{SD}	I_S=1A, V_{GS}=0V		0.4	0.8	V

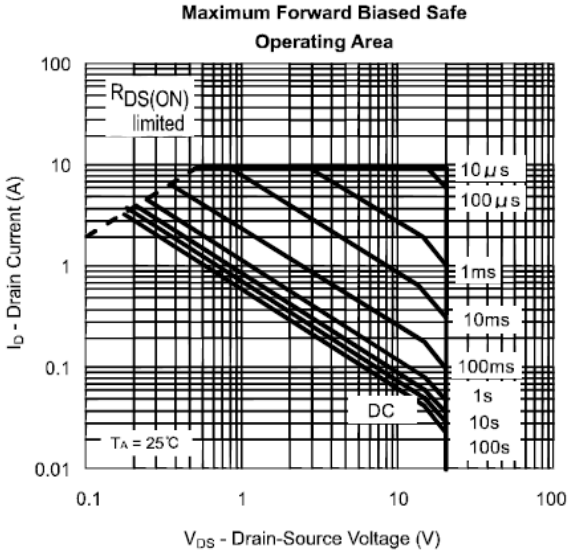
Typical Characteristics at T_a=25^{0}C

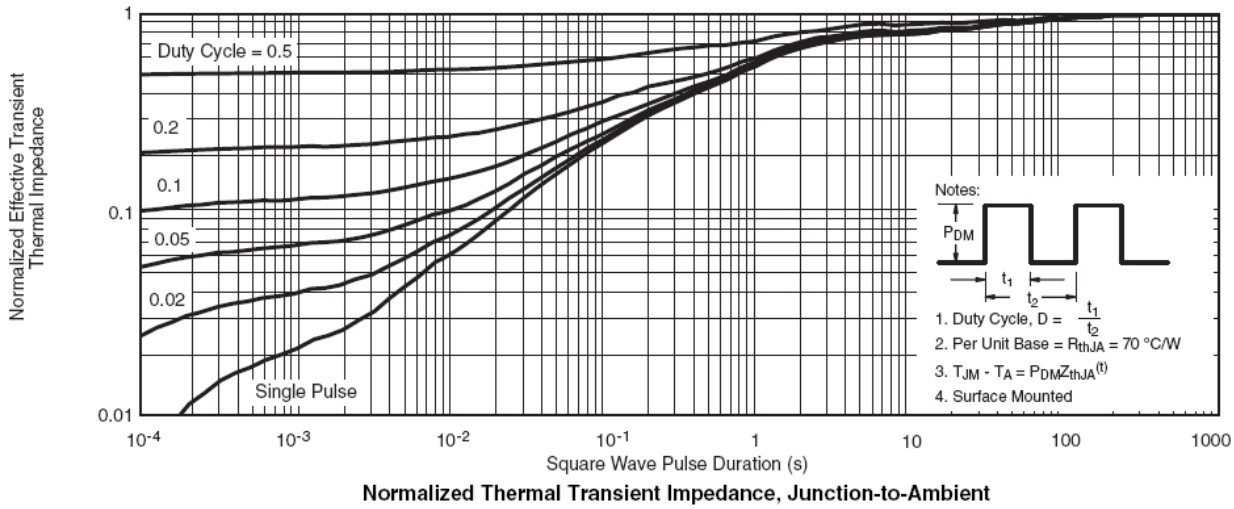












Normalized Thermal Transient Impedance, Junction-to-Ambient