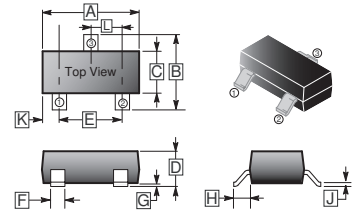
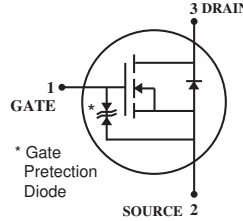


RoHS Compliant Product
A Suffix of "-C" specifies halogen & lead-free

SOT-23

FEATURES

- Low on resistance.
- Fast switching speed.
- Low-voltage drive.
- Easily designed drive circuits.
- Easy to parallel.
- Pb-Free package is available.
- ESD protected:2000V



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.04	G	-	0.18
B	2.10	2.80	H	0.40	0.60
C	1.20	1.60	J	0.08	0.20
D	0.89	1.40	K	0.6 REF.	
E	1.78	2.04	L	0.85	1.15
F	0.30	0.50			

DEVICE MARKING: RK

MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

PARAMETER		SYMBOL	RATING	UNIT
Drain – Source Voltage		V_{DS}	60	V
Gate – Source Voltage		V_{GS}	± 20	V
Drain Current	Continuous	I_D	115	mA
	Pulsed	I_{DP}^1	0.8	A
Drain Reverse Current	Continuous	I_{DR}	115	mA
	Pulsed	I_{DRP}^1	0.8	A
Total Power Dissipation		P_D^2	225	mW
Channel & Storage Temperature		T_{CH}, T_{STG}	150, -55~150	$^\circ\text{C}$

Note: 1. Pulse width $\leq 10\mu\text{s}$, Duty cycle $\leq 1\%$. 2. When mounted on 1x0.75x0.062 inch glass epoxy board.

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITION
Gate-Source Leakage Current	I_{GSS}	-	-	± 10	μA	$V_{GS}=\pm 20\text{V}, V_{DS}=0\text{V}$
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	60	-	-	V	$V_{GS}=0\text{V}, I_D=10\mu\text{A}$
Zero Gate Voltage Drain Current	I_{DSS}	-	-	1	μA	$V_{DS}=60\text{V}, V_{GS}=0\text{V}$
Gate Threshold Voltage	$V_{GS(TH)}$	1	1.85	2.5	V	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$
Drain-Source On-State Resistance*	$R_{DS(ON)}^*$	-	-	7.5	Ω	$V_{GS}=10\text{V}, I_D=0.5\text{A}$
		-	-	7.5		$V_{GS}=5\text{V}, I_D=0.05\text{A}$
Forward Transfer Admittance	$ Y_{FS} ^*$	80	-	-	mS	$V_{DS}=10\text{V}, I_D=0.2\text{A}$
Input Capacitance	C_{ISS}	-	25	50	pF	$V_{DS}=25\text{V}$
Output Capacitance	C_{OSS}	-	10	25		$V_{GS}=0\text{V}$
Reverse Transfer Capacitance	C_{RSS}	-	3.0	5.0		$f=1\text{MHz}$
Turn-on Delay Time	$T_{d(ON)}^*$	-	12	20	nS	$V_{DD} \doteq 30\text{V}, V_{GS}=10\text{V}$
Turn-off Delay Time	$T_{d(OFF)}^*$	-	20	30		$I_D=200\text{mA}, R_L=150\Omega, R_{GS}=10\Omega$

* Pulse width $\leq 300\mu\text{s}$, Duty cycle $\leq 1\%$

SWITCHING CHARACTERISTICS MEASUREMENT CIRCUIT

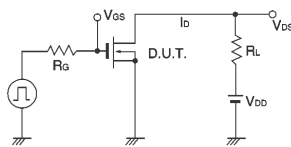


Fig.13 Switching time measurement circuit

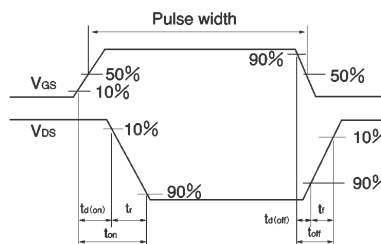


Fig.14 Switching time waveforms

CHARACTERISTIC CURVES

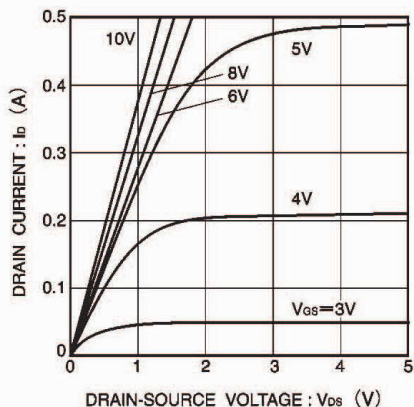


Fig.1 Typical output characteristics

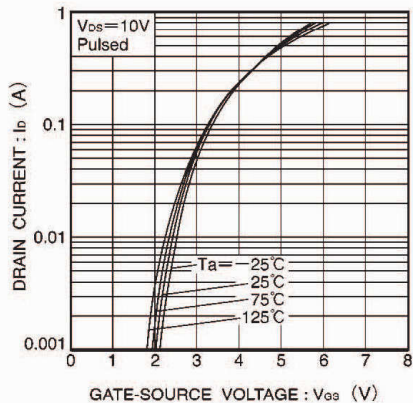


Fig.2 Typical transfer characteristics

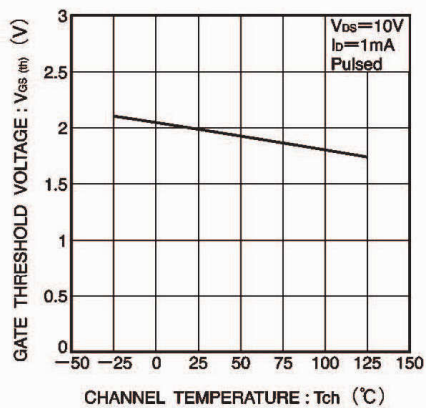


Fig.3 Gate threshold voltage vs. channel temperature

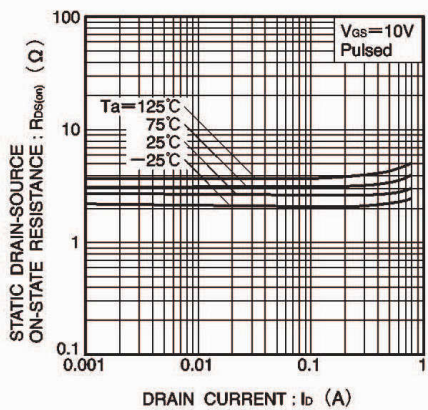


Fig.4 Static drain-source on-state resistance vs. drain current (I)

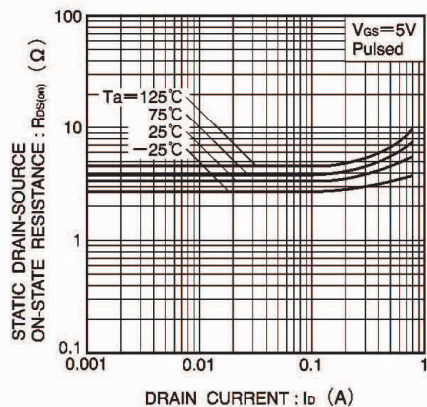


Fig.5 Static drain-source on-state resistance vs. drain current (II)

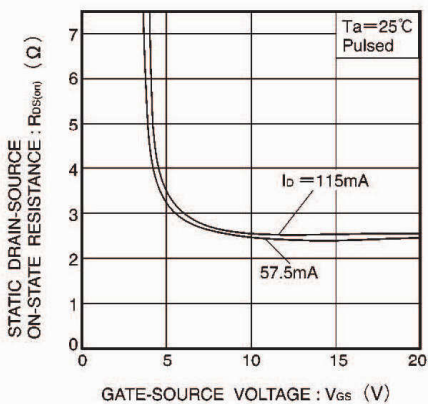


Fig.6 Static drain-source on-state resistance vs. gate-source voltage

CHARACTERISTIC CURVES

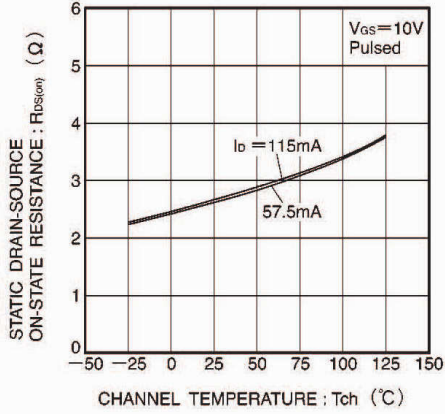


Fig.7 Static drain-source on-state resistance vs. channel temperature

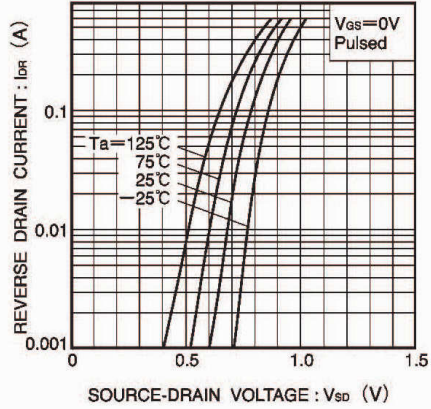


Fig.8 Reverse drain current vs. source-drain voltage (I)

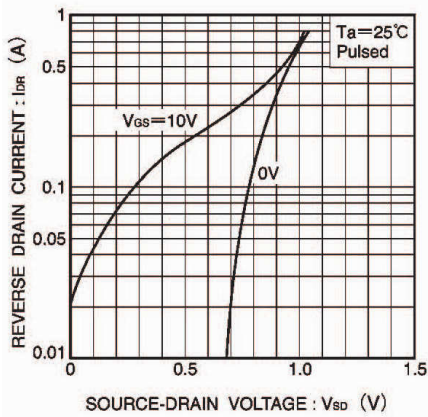


Fig.9 Reverse drain current vs. source-drain voltage (II)

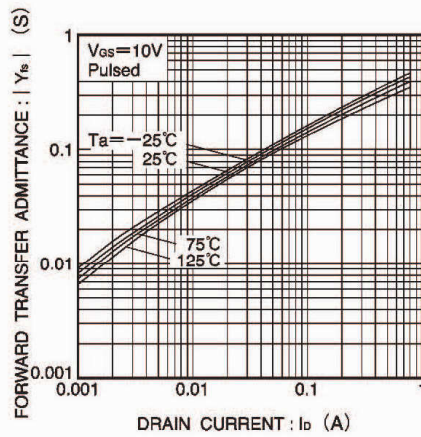


Fig.10 Forward transfer admittance vs. drain current

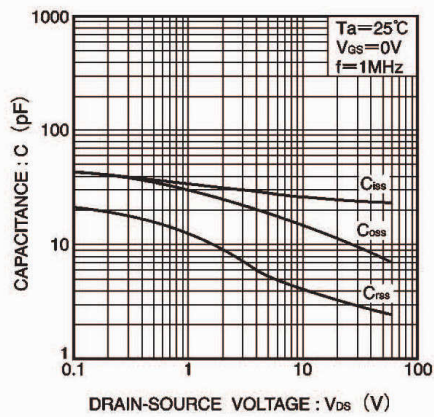


Fig.11 Typical capacitance vs. drain-source voltage

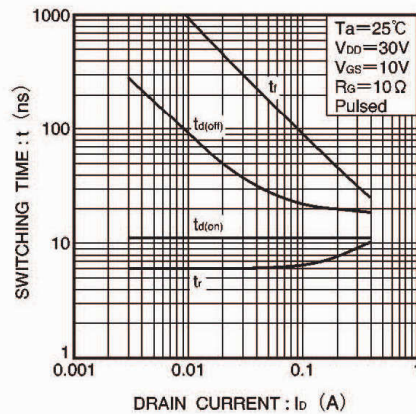


Fig.12 Switching characteristics
(See Figures 13 and 14 for the measurement circuit and resultant waveforms)