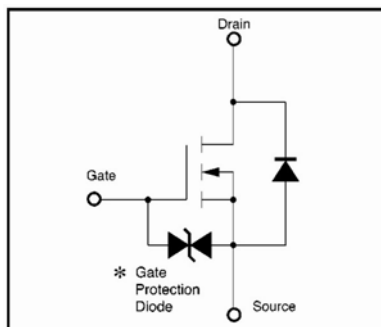


RoHS Compliant Product
A Suffix of "-C" specifies halogen & lead-free

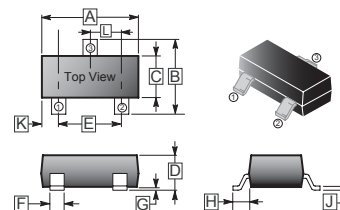
SOT-323

FEATURES

- Low on-resistance
- Fast switching Speed
- Low-voltage drive
- Easily designed drive circuits
- ESD protected:1500V



* A protection diode has been built in between the gate and the source to protect against static electricity when the product is in use. Use the protection circuit when fixed voltages are exceeded.



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.80	2.20	G	0.100	REF.
B	1.80	2.45	H	0.525	REF.
C	1.15	1.35	J	0.08	0.25
D	0.80	1.10	K	-	-
E	1.20	1.40	L	0.650	TYP.
F	0.20	0.40			

DEVICE MARKING: RK

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

PARAMETER	SYMBOL	RATING	UNIT
Drain – Source Voltage	V_{DSS}	60	V
Continuous Gate – Source Voltage	V_{GSS}	± 20	V
Continuous Drain Current	I_D	115	mA
Pulsed Drain Current	I_{DP}^1	800	mA
Continuous Reverse Drain Current	I_{DR}	115	mA
Pulsed Reverse Drain Current	I_{DRP}^1	800	mA
Total Power Dissipation	P_D^2	225	mW
Channel & Storage Temperature Range	T_{CH}, T_{STG}	150, -55~150	$^\circ\text{C}$

Note:

1. $P_w \leq 10\mu\text{S}$, Duty cycle $\leq 1\%$
2. When mounted on a 1x0.75x0.062 inch glass epoxy board

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

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITION
OFF CHARACTERISTICS ²						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	60	-	-	V	$V_{GS}=0V, I_D=10\mu\text{A}$
Zero Gate Voltage Drain Current	I_{DSS}	-	-	1.0	μA	$V_{DS}=60V, V_{GS}=0V$
Gate-Source Leakage	I_{GSS}	-	-	± 10	μA	$V_{DS}=0V, V_{GS}=\pm 20V$
ON CHARACTERISTICS ²						
Gate-Threshold Voltage	$V_{GS(TH)}$	1	1.85	2.5	V	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$
Static Drain-Source On Resistance	$R_{DS(ON)}$	-	-	7.5	Ω	$V_{GS}=10V, I_D=0.5A$
		-	-	7.5		$V_{GS}=5V, I_D=0.05A$
Forward Transfer Admittance	g_{FS}^*	80	-	-	ms	$V_{DS}=10V, I_D=0.2A$
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{ISS}	-	25	50	pF	$V_{DS}=25V$
Output Capacitance	C_{OSS}	-	10	25		$V_{GS}=0V$
Reverse Transfer Capacitance	C_{RSS}	-	3.0	5		$f=1\text{MHz}$
SWITCHING CHARACTERISTICS						
Turn-on Delay Time	$T_{d(ON)}^*$	-	12	20	nS	$V_{DD}=30V, I_D=0.2A$
Turn-off Delay Time	$T_{d(OFF)}^*$	-	20	30		$R_L=150\Omega, V_{GS}=10V, R_G=10\Omega$

* $P_w \leq 300\mu\text{S}$, Duty cycle $\leq 1\%$

CHARACTERISTIC CURVES

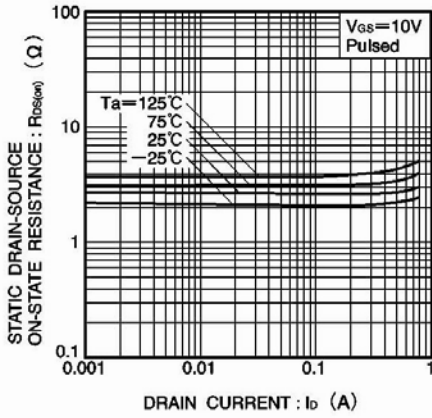


Fig. 4 Static drain-source on-state resistance vs. drain current (I)

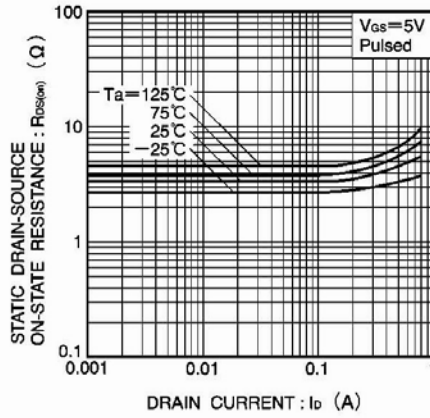


Fig. 5 Static drain-source on-state resistance vs. drain current (II)

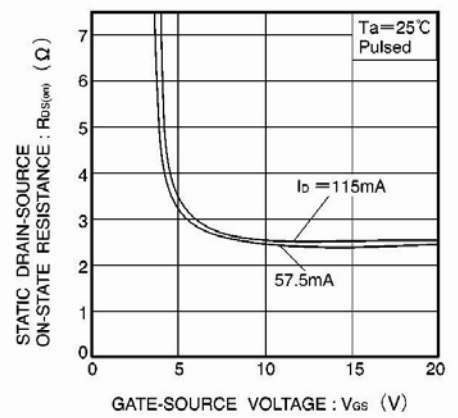


Fig. 6 Static drain-source on-state resistance vs. gate-source voltage

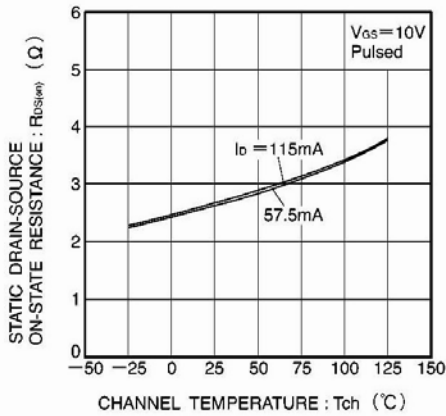


Fig. 7 Static drain-source on-state resistance vs. channel temperature

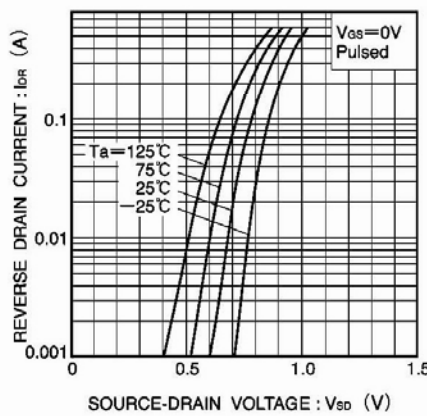


Fig. 8 Reverse drain current vs. source-drain voltage (I)

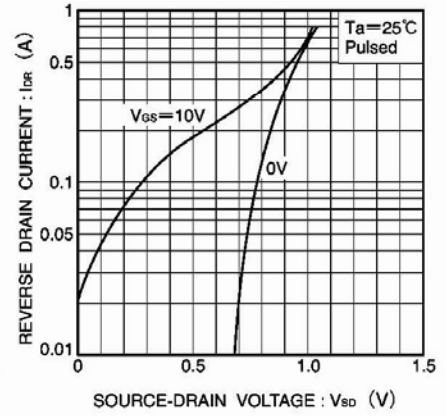


Fig. 9 Reverse drain current vs. source-drain voltage (II)

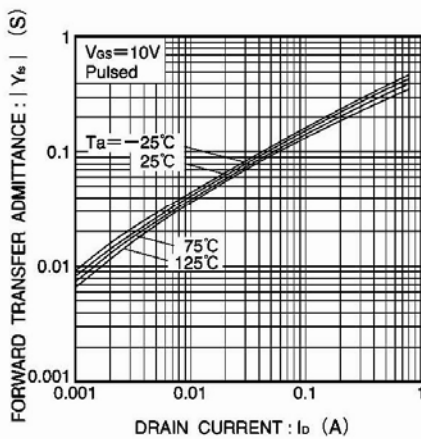


Fig. 10 Forward transfer admittance vs. drain current

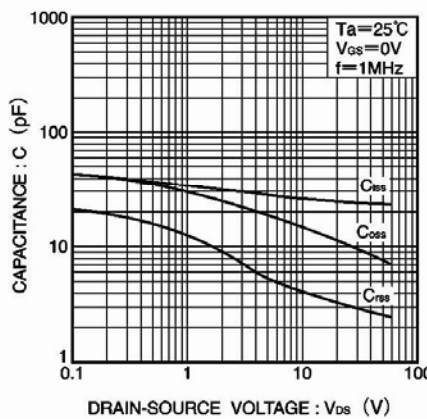


Fig. 11 Typical capacitance vs. drain-source voltage

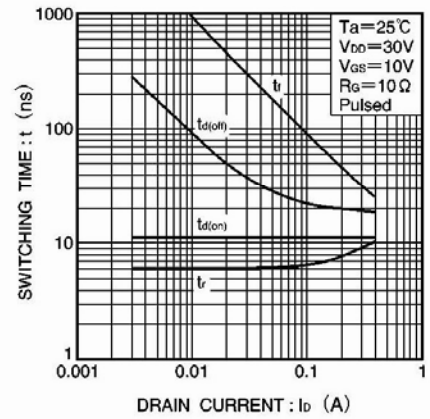


Fig. 12 Switching characteristics (See Figures 13 and 14 for the measurement circuit and resultant waveforms)