

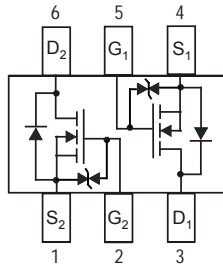
RoHS Compliant Product  
A Suffix of "-C" specifies halogen & lead-free

## FEATURES

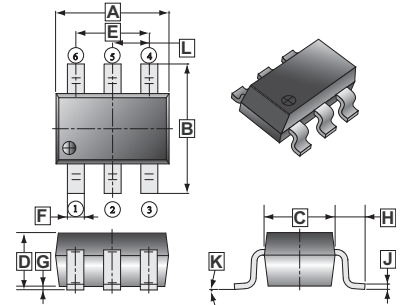
- Low on-resistance
- Fast switching Speed
- Low-voltage drive
- Easily designed drive circuits
- ESD protected:2000V

## MECHANICAL DATA

- Case: SOT-363
- Case Material-UL flammability rating 94V-0
- Terminals: Solderable per MIL-STD-202, Method 208
- Weight: 0.006 grams(approx.)



## SOT-363



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.00	2.20	G	0.100	REF.
B	2.15	2.45	H	0.525	REF.
C	1.15	1.35	J	0.08	0.15
D	0.90	1.10	K	8°	
E	1.20	1.40	L	0.650 TYP.	
F	0.15	0.35			

## DEVICE MARKING: RK

## MAXIMUM RATINGS (T<sub>A</sub> = 25°C unless otherwise specified)

PARAMETER	SYMBOL	RATING	UNIT
Drain – Source Voltage	V <sub>DS</sub>	60	V
Gate – Source Voltage	V <sub>GS</sub>	±20	V
Continuous Drain Current	I <sub>D</sub>	115	mA
Pulsed Drain Current	I <sub>DP</sub> <sup>1</sup>	800	mA
Continuous Reverse Drain Current	I <sub>D</sub>	115	mA
Pulsed Reverse Drain Current	I <sub>DRP</sub> <sup>1</sup>	800	mA
Power Dissipation	P <sub>D</sub>	225	mW
Operating Junction & Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55~150	°C

### Note:

1. P<sub>w</sub> ≤ 10μS, Duty cycle ≤ 1%
2. When mounted on a 1x0.75x0.062 inch glass epoxy board

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise specified)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITION
<b>OFF CHARACTERISTICS</b>						
Drain-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	60	-	-	V	V <sub>GS</sub> =0V, I <sub>D</sub> =10μA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	-	-	1.0	μA	V <sub>DS</sub> =60V, V <sub>GS</sub> =0V
Gate-Source Leakage	I <sub>GSS</sub>	-	-	±10	μA	V <sub>DS</sub> =0V, V <sub>GS</sub> =±20V
<b>ON CHARACTERISTICS</b>						
Gate-Threshold Voltage	V <sub>GS(TH)</sub>	1	1.85	2.5	V	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA
Static Drain-Source On Resistance	R <sub>DS(ON)</sub>	-	-	7.5	Ω	V <sub>GS</sub> =10V, I <sub>D</sub> =0.5A
		-	-	7.5		V <sub>GS</sub> =5V, I <sub>D</sub> =0.05A
Forward Transfer Admittance	g <sub>FS</sub> <sup>*</sup>	80	-	-	ms	V <sub>DS</sub> =10V, I <sub>D</sub> =0.2A
<b>DYNAMIC CHARACTERISTICS</b>						
Input Capacitance	C <sub>ISS</sub>	-	25	50	pF	V <sub>DS</sub> =25V
Output Capacitance	C <sub>OSS</sub>	-	10	25		V <sub>GS</sub> =0V
Reverse Transfer Capacitance	C <sub>RSS</sub>	-	3.0	5		f=1MHz
<b>SWITCHING CHARACTERISTICS</b>						
Turn-on Delay Time	T <sub>d(ON)</sub>	-	12	20	nS	V <sub>DD</sub> =30V, I <sub>D</sub> =0.2A
Turn-off Delay Time	T <sub>d(OFF)</sub>	-	20	30		R <sub>L</sub> =150Ω, V <sub>GS</sub> =10V, R <sub>G</sub> =10Ω

\* P<sub>w</sub> ≤ 300μS, Duty cycle ≤ 1%

**CHARACTERISTIC CURVES**

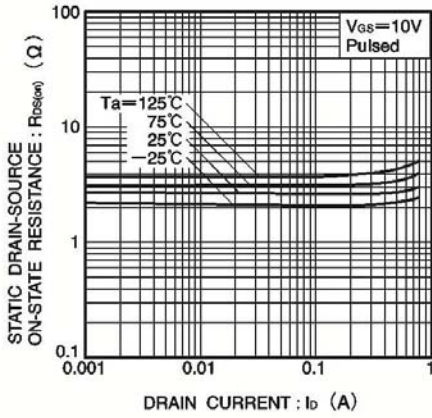


Fig.4 Static drain-source on-state resistance vs. drain current ( I )

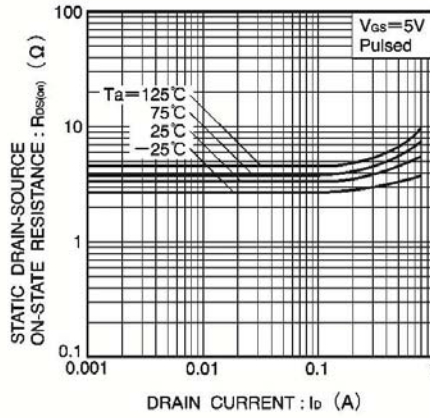


Fig.5 Static drain-source on-state resistance vs. drain current ( II )

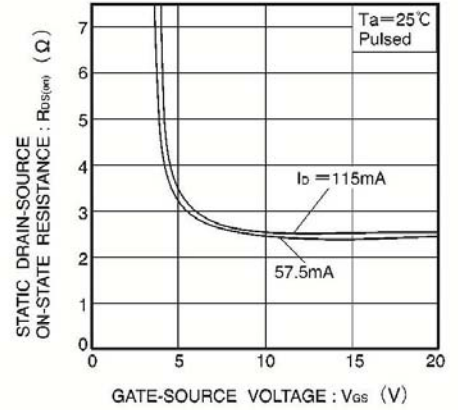


Fig.6 Static drain-source on-state resistance vs. gate-source voltage

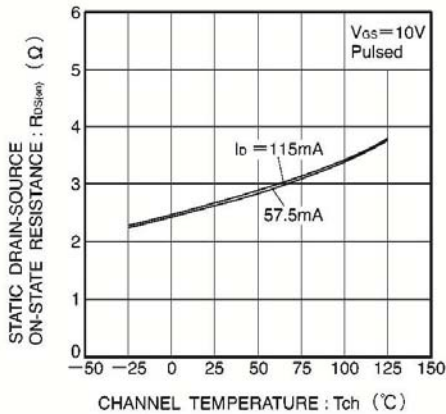


Fig.7 Static drain-source on-state resistance vs. channel temperature

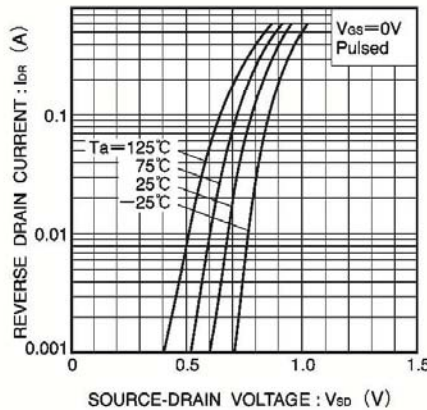


Fig.8 Reverse drain current vs. source-drain voltage ( I )

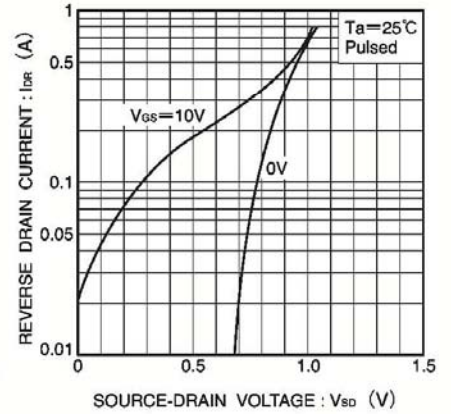


Fig.9 Reverse drain current vs. source-drain voltage ( II )

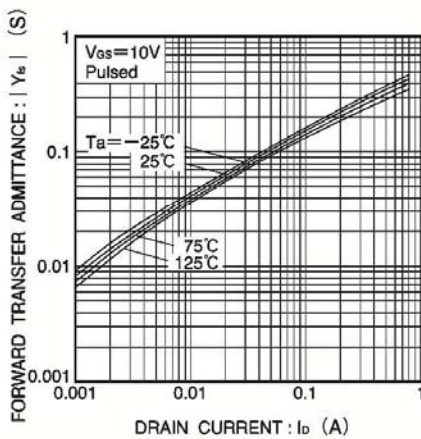


Fig.10 Forward transfer admittance vs. drain current

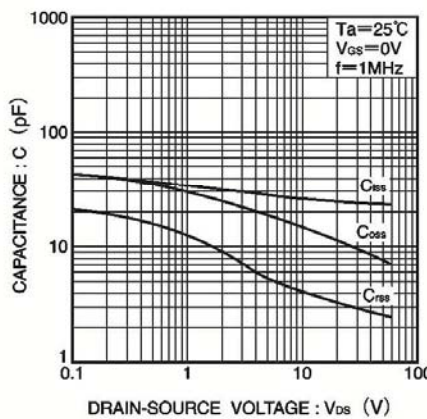


Fig.11 Typical capacitance vs. drain-source voltage

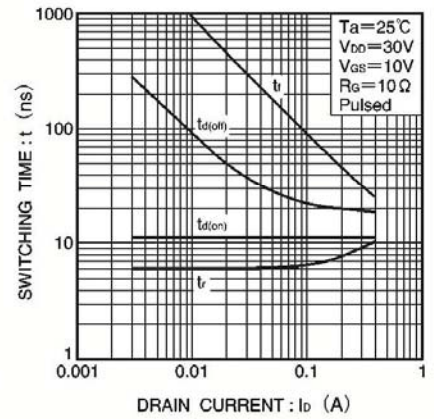


Fig.12 Switching characteristics  
(See Figures 13 and 14 for the measurement circuit and resultant waveforms)