



# SEMICONDUCTOR TECHNICAL DATA

## KRC451~457

EPITAXIAL PLANAR NPN TRANSISTOR

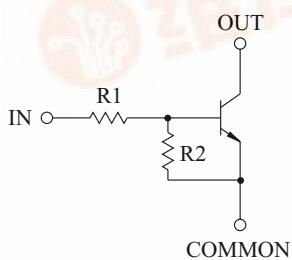
HIGH CURRENT SWITCHING APPLICATION.

INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.

## FEATURES

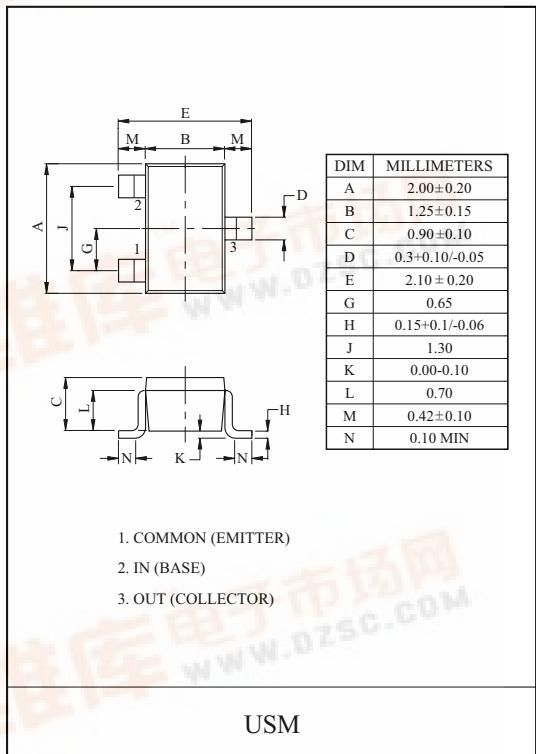
- With Built-in Bias Resistors.
- Simplify Circuit Design.
- Reduce a Quantity of Parts and Manufacturing Process.
- High Output Current : 500mA.

## EQUIVALENT CIRCUIT



## BIAS RESISTOR VALUES

TYPE NO.	R1(kΩ)	R2(kΩ)
KRC451	1	1
KRC452	2.2	2.2
KRC453	4.7	4.7
KRC454	10	10
KRC455	0.47	10
KRC456	1	10
KRC457	2.2	10



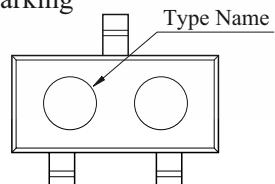
## MAXIMUM RATING (Ta=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Output Voltage	KRC451~457	V <sub>O</sub>	12	V
Input Voltage	KRC451	V <sub>I</sub>	10, -10	V
	KRC452		12, -10	
	KRC453		20, -10	
	KRC454		30, -10	
	KRC455		10, -5	
	KRC456		10, -5	
	KRC457		12, -6	
Output Current	KRC451~457	I <sub>O</sub>	500	mA
Power Dissipation		P <sub>D</sub>	100	mW
Junction Temperature		T <sub>J</sub>	150	°C
Storage Temperature Range		T <sub>stg</sub>	-55 ~ 150	°C

## MARK SPEC

TYPE	KRC451	KRC452	KRC453	KRC454	KRC455	KRC456	KRC457
MARK	CA	CB	CC	CD	CE	CF	CG

## Marking



# KRC451~457

ELECTRICAL CHARACTERISTICS (Ta=25 °C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Cut-off Current	KRC451 ~457	I <sub>O(OFF)</sub>	V <sub>O</sub> =12V, V <sub>I</sub> =0	-	-	10	µA
DC Current Gain	KRC451	G <sub>I</sub>	V <sub>O</sub> =5V, I <sub>O</sub> =50mA	33	-	-	
	KRC452			39	-	-	
	KRC453			47	-	-	
	KRC454			56	-	-	
	KRC455			56	-	-	
	KRC456			56	-	-	
	KRC457			56	-	-	
Output Voltage	KRC451 ~457	V <sub>O(ON)</sub>	I <sub>O</sub> =50mA, I <sub>I</sub> =2.5mA	-	0.1	0.3	V
Input Voltage (ON)	KRC451	V <sub>I(ON)</sub>	V <sub>O</sub> =0.3V, I <sub>O</sub> =20mA	-	-	3.0	V
	KRC452			-	-	3.0	
	KRC453			-	-	3.0	
	KRC454			-	-	3.0	
	KRC455			-	-	3.0	
	KRC456			-	-	3.0	
	KRC457			-	-	2.0	
Input Voltage (OFF)	KRA451 ~454	V <sub>I(OFF)</sub>	V <sub>O</sub> =5V, I <sub>O</sub> =0.1mA	0.5	-	-	V
	KRA455 ~457			0.3	-	-	
Transition Frequency	KRC451 ~457	f <sub>T</sub> *	V <sub>O</sub> =10V, I <sub>O</sub> =5mA, f=100MHz	-	200	-	MHz
Input Current	KRC451	I <sub>I</sub>	V <sub>I</sub> =5V	-	-	7.2	mA
	KRC452			-	-	3.8	
	KRC453			-	-	1.8	
	KRC454			-	-	0.88	
	KRC455			-	-	7.2	
	KRC456			-	-	7.2	
	KRC457			-	-	3.6	

Note : \* Characteristic of Transistor Only.