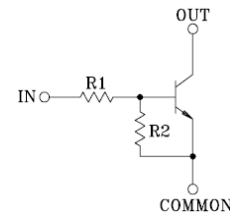
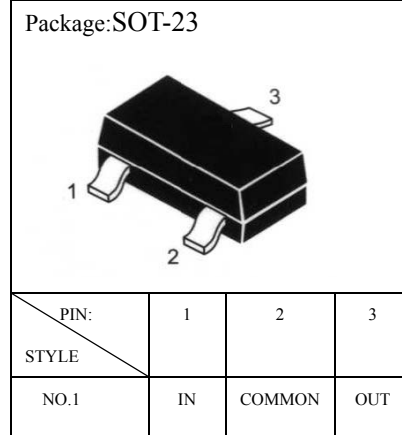


**NPN digital transistor**  
**(Built-in resistor type)**

**ABSOLUTE MAXIMUM RATINGS at Ta=25°C**

Characteristic	Symbol	Rating	Unit
supply Voltage	V <sub>CC</sub>	50	V
Input voltage	V <sub>IN</sub>	-5~+12	V
Output Current	I <sub>O</sub>	100	mA
Power dissipation	P <sub>D</sub>	200	mW
Junction Temperature Range	T <sub>j</sub>	-55-150	°C
Storage Temperature Range	T <sub>stg</sub>	-55-150	°C



**ELECTRICAL CHARACTERISTICS at Ta=25°C**

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Input Voltage	V <sub>I(off)</sub>	0.5			V	I <sub>O</sub> =100uA V <sub>O</sub> =5V
	V <sub>I(on)</sub>			1.1	V	I <sub>O</sub> =5.0mA V <sub>O</sub> =0.2V
Output voltage	V <sub>O(on)</sub>		0.1	0.3	V	I <sub>O</sub> =10mA I <sub>I</sub> =0.5mA
Input current	I <sub>I</sub>			3.6	mA	V <sub>I</sub> = 5V
Output current	I <sub>O(off)</sub>			0.5	uA	V <sub>O</sub> = 50V V <sub>I</sub> = 0V
DC Current Gain	G <sub>I</sub>	80				V <sub>O</sub> = 5V I <sub>O</sub> = 10mA
Input resistance	R <sub>1</sub>	1.54	2.2	2.86	KΩ	
Resistance ratio	R <sub>2</sub> /R <sub>1</sub>	17	21	26		
Current Gain-Bandwidth Product	f <sub>T</sub>		250		MHz	V <sub>O</sub> = 10V I <sub>O</sub> = 5mA, f=100MHz
Rise time	t <sub>r</sub>		0.01			V <sub>O</sub> = 5V, V <sub>IN</sub> = 5V R <sub>L</sub> =1KΩ
Storage time	t <sub>stg</sub>		2.0			
Fall time	t <sub>f</sub>		0.1			

\* Total Device Dissipation : FR=1x0.75x0.062in Board,Derate 25°C.

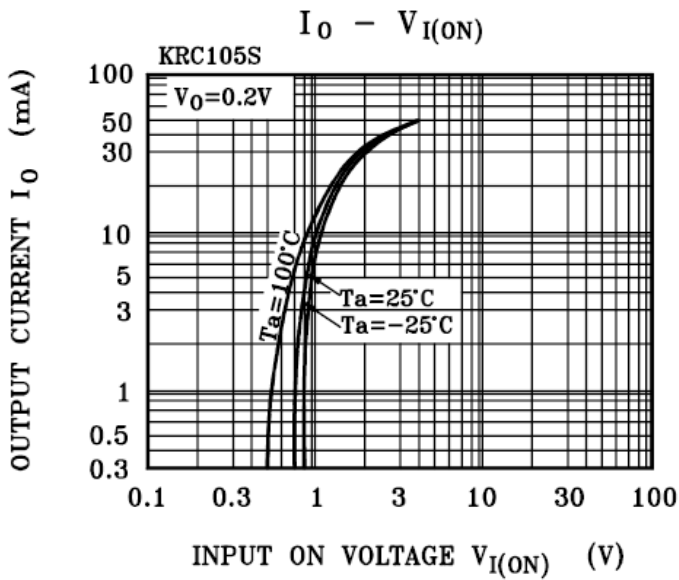
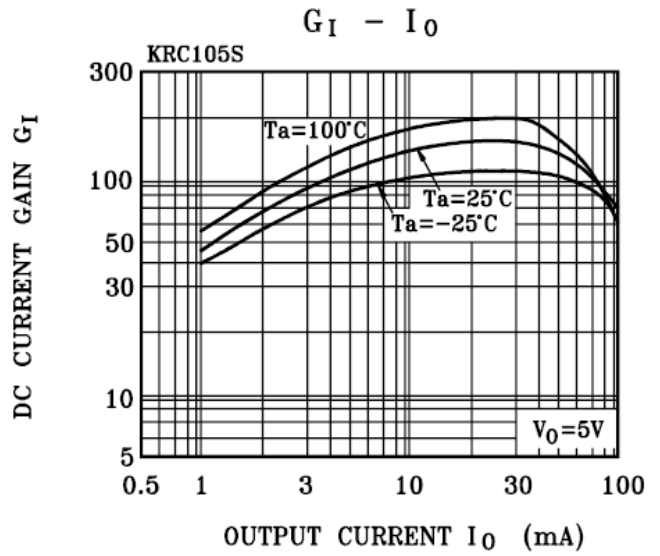
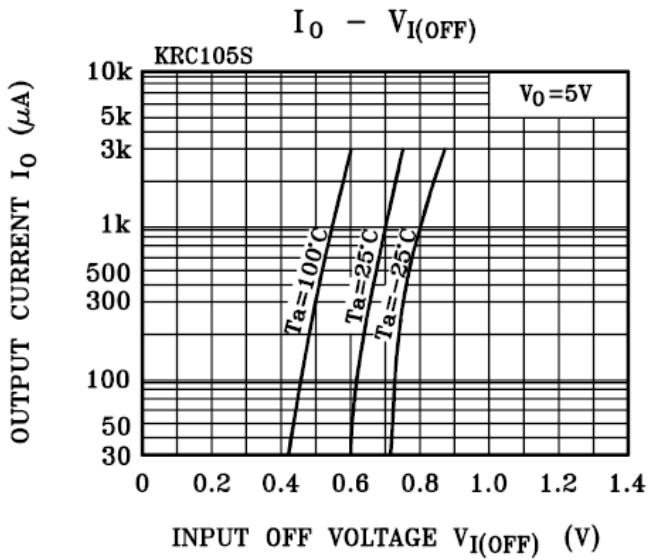
# Pulse Test : Pulse Width ≤300uS,Duty cycle ≤2%

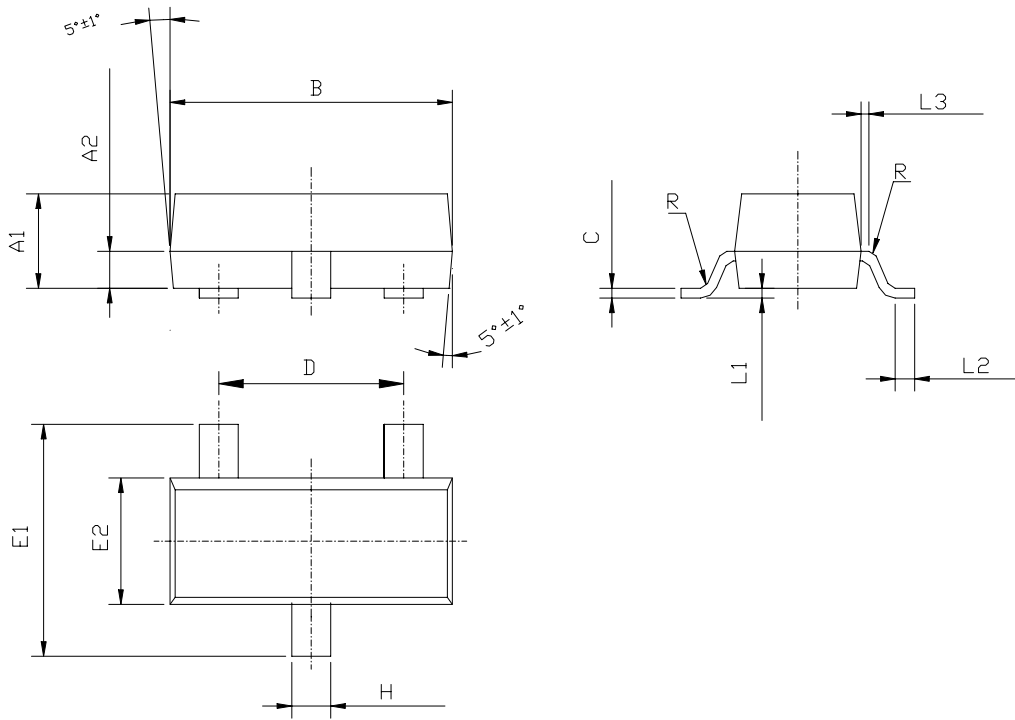
DEVICE MARKING:

KRC105S=NE

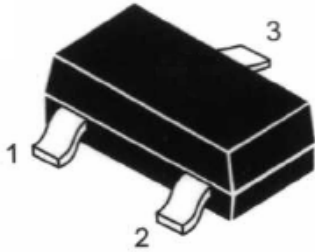
# KRC105S

NPN EPITAXIAL SILICON TRANSISTOR

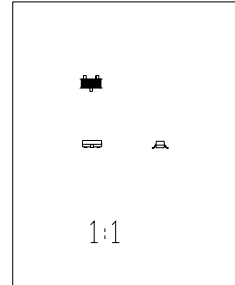




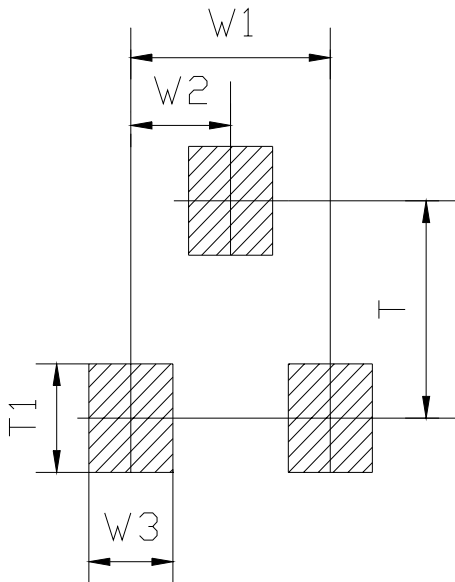
Symbol	Dimensions in Millimeters		
	Min	Nominal	Max
A1	0.900	0.970	1.000
A2	0.350	0.380	0.410
B	2.800	2.900	3.000
C	0.085	0.100	0.150
D	1.800	1.900	2.000
E1	2.200	2.400	2.600
E2	1.200	1.300	1.400
H	0.300	0.400	0.500
L1	0.000		0.100
L2	0.200		
L3	0.030	0.080	0.130
R	0.080TYP		



OUTSIDE



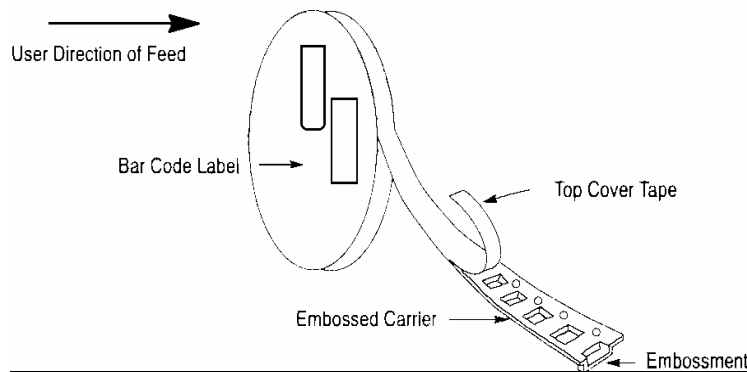
Scale 1:1 on letter size paper



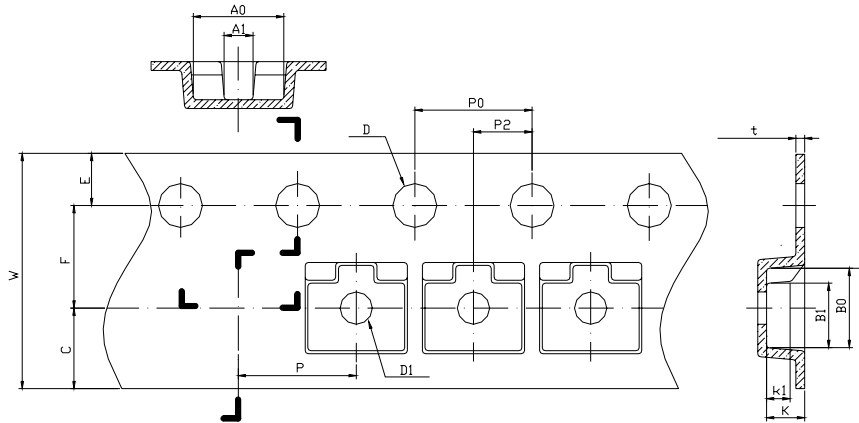
FOOTPRINTS FOR SOLDERING

Symbol	Dimensions in Millimeters	Dimensions in Inches
	Nominal	Nominal
W1	1.900	0.0748
W2	0.950	0.0374
W3	0.800	0.0315
T	2.000	0.0787
T1	1.000	0.0394

**SOT-23 PACKAGING:**

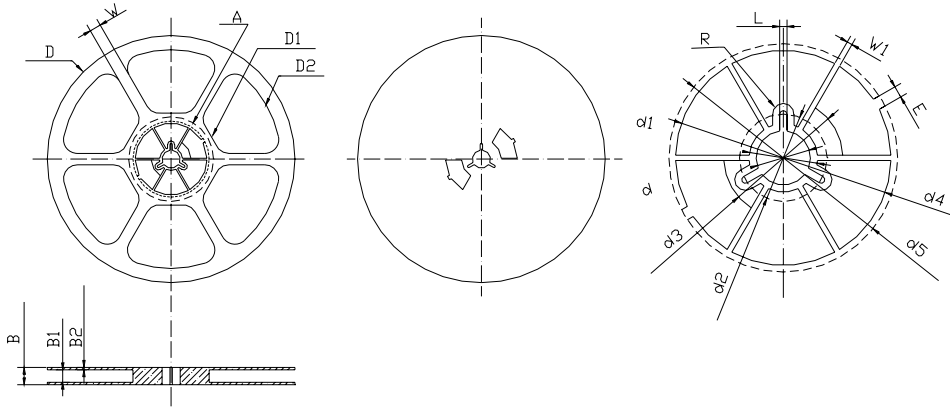


**SOT-23 EMBOSSED CARRIER TAPE:**



Symbol	Dimensions in Millimeters			Dimensions in Inches		
	Minimum	Nominal	Maximum	Minimum	Nominal	Maximum
A0	3.050	3.150	3.250	0.1201	0.1240	0.1280
A1	0.900	1.000	1.100	0.0354	0.0394	0.0433
B0	2.669	2.769	2.869	0.1051	0.1090	0.1130
B1	2.100	2.200	2.300	0.0827	0.0866	0.0906
C	2.750TYP			0.1083TYP		
D	1.500	1.500	1.600	0.0591	0.0591	0.0630
D1	0.900	1.000	1.100	0.0354	0.0394	0.0433
E	1.650	1.750	1.850	0.0650	0.0689	0.0728
F	3.450	3.500	3.550	0.1358	0.1378	0.1398
K	1.119	1.219	1.319	0.0441	0.0480	0.0519
K1	0.850TYP			0.03346TYP		
P	3.900	4.000	4.100	0.1535	0.1575	0.1614
P0	3.900	4.000	4.100	0.1535	0.1575	0.1614
P010	39.800	40.000	40.200	1.5669	1.5748	1.5827
P2	1.950	2.000	2.050	0.0768	0.0787	0.0807
t	0.216	0.229	0.242	0.0085	0.0090	0.0095
W	7.900	8.000	8.300	0.3110	0.3150	0.3268

**SOT-23 REEL DATA:**



Symbol	Dimensions in Millimeters			Dimensions in Inches		
	Minimum	Nominal	Maximum	Minimum	Nominal	Maximum
B	-	-	12.500	-	-	0.4921
B1	8.900	9.000	9.100	0.3504	0.3543	0.3583
B2	1.700	1.750	1.800	0.0669	0.0689	0.0709
D	$\phi 177.000$	$\phi 178.000$	$\phi 179.000$	$\Phi 6.9685$	$\Phi 7.0079$	$\Phi 7.0472$
D1	$\Phi 67.600$ TYP			$\Phi 2.6614$ TYP		
D2	$\Phi 157.600$ TYP			$\Phi 6.2047$ TYP		
d	$\Phi 12.800$	$\Phi 13.000$	$\Phi 13.200$	$\Phi 0.5039$	$\Phi 0.5118$	$\Phi 0.5197$
d1	$\Phi 16.40$ TYP			$\Phi 0.6457$ TYP		
d2	$\Phi 21.000$ TYP			$\Phi 0.8268$ TYP		
d3	$\Phi 25.200$ TYP			$\Phi 0.9922$ TYP		
d4	$\Phi 50.600$	$\Phi 51.600$	$\Phi 52.600$	$\Phi 1.9921$	$\Phi 2.0315$	$\Phi 2.0709$
d5	$\Phi 53.800$	$\Phi 54.800$	$\Phi 55.800$	$\Phi 2.1181$	$\Phi 2.1575$	$\Phi 2.1969$
E	2.800 TYP			0.1102 TYP		
L	1.750 TYP			0.0689 TYP		
R	2.575 TYP			0.1014 TYP		
W	15.000 TYP			0.5906 TYP		
W1	1.300 TYP			0.0512 TYP		