

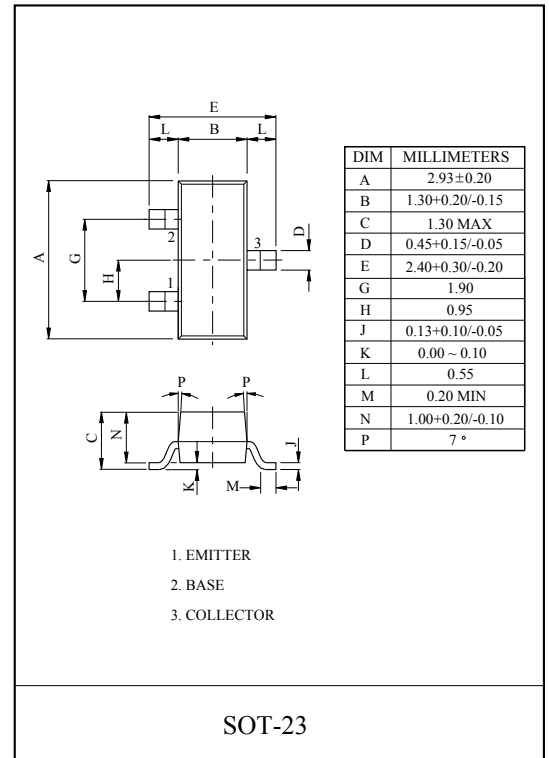
GENERAL PURPOSE APPLICATION.  
SWITCHING APPLICATION.

#### FEATURES

Super Mini Packaged Transistors for Hybrid circuits.  
For Complementary with NPN Type BCW71/72, BCV71.

#### MAXIMUM RATING (Ta=25°C)

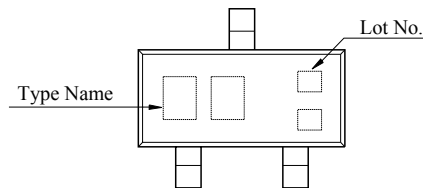
CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	BCW69/70	$V_{CBO}$	-50	V
	BCW89		-60	
Collector-Emitter Voltage	BCW69/70	$V_{CEO}$	-45	V
	BCW89		-60	
Emitter-Base Voltage		$V_{EBO}$	-5	V
Collector Current		$I_C$	-100	mA
Emitter Current		$I_E$	100	mA
Collector Power Dissipation		$P_C$	200	mW
Junction Temperature		$T_j$	150	°C
Storage Temperature Range		$T_{stg}$	-65 ~ 150	°C



#### MARK SPEC

TYPE	MARK
BCW69	H 1
BCW70	H 2
BCW89	H 5

#### Marking



# BCW69/70/89

## ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector-Emitter Breakdown Voltage	BCW69/70	$V_{(BR)CEO}$	$I_C=-2mA, I_B=0$	-45	-	-	V
	BCW89			-60	-	-	
Collector-Base Breakdown Voltage	BCW69/70	$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0$	-50	-	-	V
	BCW89			-60	-	-	
Collector-Emitter Breakdown Voltage	BCW69/70	$V_{(BR)CES}$	$I_C=-10\mu A, V_{BE}=0$	-50	-	-	V
	BCW89			-60	-	-	
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	-5.0	-	-	V
Collector Cut-off Current		$I_{CBO}$	$V_{CB}=-20V, I_E=0$	-	-	-100	nA
			$T_a=100^\circ C, V_{CB}=-20V, I_E=0$	-	-	-10	$\mu A$
DC Current Gain	BCW69/89	$h_{FE}$	$V_{CE}=-5V, I_C=-10\mu A$	-	90	-	
	BCW70			-	150	-	
	BCW69/89		$V_{CE}=-5V, I_C=-2mA$	120	-	260	
	BCW70			215	-	500	
Base-Emitter Voltage		$V_{BE(ON)}$	$V_{CE}=-5V, I_C=-2mA$	-600	-	-750	mV
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C=-10mA, I_B=-0.5mA$	-	-720	-	mV
			$I_C=-50mA, I_B=-2.5mA$	-	-810	-	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=-10mA, I_B=-0.5mA$	-	-	-300	mV
			$I_C=-50mA, I_B=-2.5mA$	-	-180	-	
Transition Frequency		$f_T$	$I_C=-10mA, V_{CE}=-5V, f=100MHz$	-	150	-	MHz
Collector Output Capacitance		$C_{ob}$	$V_{CB}=-10V, I_E=0, f=1MHz$	-	-	7.0	pF
Noise Figure		NF	$I_C=-0.2mA, V_{CE}=-5V,$ $R_g=2k\Omega, f=1kHz$	-	-	10	dB



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