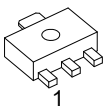
USS305PX

Preliminary ***PNP SILICON TRANSISTOR***

-4.0A, -80V PNP LOW $V_{CE(SAT)}$ TRANSISTOR



SOT-89

■ DESCRIPTION

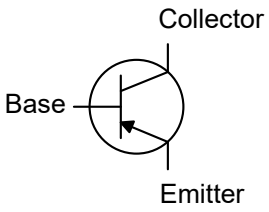
The UTC **USS305PX** is PNP low $V_{CE(SAT)}$ transistor in a medium power and flat lead SOT-89 Surface-Mounted Device (SMD) plastic package.

NPN complement: USS305NX.

■ FEATURES

* Very low collector-emitter saturation voltage $V_{CE(SAT)}$
* High collector current capability I_C and I_{CM}
* High collector current gain (h_{FE}) at high IC
* High energy efficiency due to less heat generation

■ EQUIVALENT CIRCUIT



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
USS305PXL-AB3-R	USS305PXG-AB3-R	SOT-89	B	E	C	Tube

Note: Pin Assignment: B: Base E: Emitter C: Collector

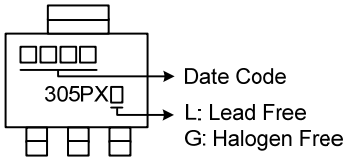
USS305PXG-AB3-R

(1)Packing Type — (1) R: Tape Reel

(2)Package Type — (2) AB3: SOT-89

(3)Green Package — (3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



■ ABSOLUTE MAXIMUM RATING (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	-80	V
Collector-Emitter Voltage	V_{CEO}	-80	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-4	A
Peak Collector Current	I_{CM}	-8	A
Power Dissipation	P_C	600	mW
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-55 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	208	°C/W

Note: Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper plate.

■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=-100μA, I_E=0	-80			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=-1mA, I_B=0	-80			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=-100μA, I_C=0	-5			V
Collector-Base Cut-off Current	I_{CBO}	V_{CB}=-80V, I_E=0			-100	nA
Emitter-Base Cut-off Current	I_{EBO}	V_{EB}=-5V, I_C=0			-100	nA
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	I_C=-1A, I_B=-100mA			-0.9	V
		I_C=-4A, I_B=-400mA			-1.05	V
Base-Emitter Turn-On Voltage	$V_{BE(ON)}$	V_{CE}=-2V, I_C=-2A			-0.85	V
DC Current Gain	h_{FE}	V_{CE}=-2V, I_C=-500mA	200			
		V_{CE}=-2V, I_C=-1A	150			
		V_{CE}=-2V, I_C=-2A	120			
		V_{CE}=-2V, I_C=-4A	60			
		V_{CE}=-2V, I_C=-5A	45			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C=-500mA,I_B=-50mA			-50	mV
		I_C=-1A,I_B=-50mA			-100	mV
		I_C=-1A,I_B=-10mA			-250	mV
		I_C=-2A,I_B=-40mA			-280	mV
		I_C=-4A,I_B=-200mA			-330	mV
		I_C=-4A,I_B=-400mA			-240	mV
		I_C=-4.7A,I_B=-235mA			-420	mV