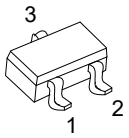
USS5140U **Preliminary** ***PNP SILICON TRANSISTOR***

-1A, -40V PNP LOW $V_{CE(SAT)}$ TRANSISTOR



SOT-323

■ DESCRIPTION

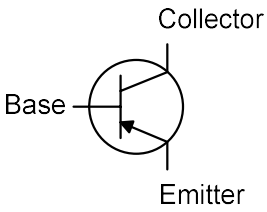
The UTC **USS5140U** is PNP low $V_{CE(SAT)}$ transistor in a medium power and flat lead SOT-323 Surface-Mounted Device (SMD) plastic package.

PNP complement: USS4140U.

■ 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

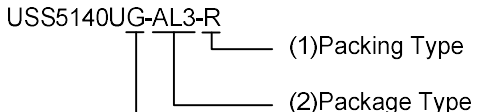
■ EQUIVALENT CIRCUIT



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
USS5140UL-AL3-R	USS5140UG-AL3-R	SOT-323	B	E	C	Tube

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

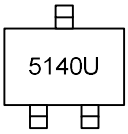


(1) R: Tape Reel

(2) AL3: SOT-323

(3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



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

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-1	A
Peak Collector Current	I_{CM}	-2	A
Peak Base Current	I_{BM}	-1	A
Power Dissipation	P_C	250	mW
Junction Temperature	T_J	+150	°C
Operating Temperature	T_{OPR}	-40 ~ +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}	500	°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	-40			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=-10mA, I_B=0	-40			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=-100μA, I_C=0	-5			V
Collector-Base Cut-off Current	I_{CBO}	V_{CB}=-40V, I_E=0			-100	nA
Collector-Emitter Cut-off Current	I_{CEO}	V_{CE}=-30V, I_B=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=-50mA			-1.1	V
Base-Emitter Turn-On Voltage	V_{BEON}	V_{CE}=-5V, I_C=-1A			-1	V
DC Current Gain	h_{FE}	V_{CE}=-5V, I_C=-1mA	300			
		V_{CE}=-5V, I_C=-100mA	300		800	
		V_{CE}=-5V, I_C=-500mA	250			
		V_{CE}=-5V, I_C=-1A	160			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=-100mA,I_B=-1mA			-200	mV
		I_C=-500mA,I_B=-50mA			-250	mV
		I_C=-1A,I_B=-100mA			-500	mV

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