



USSP4041

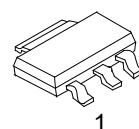
Preliminary

PNP EPITAXIAL SILICON TRANSISTOR

-60V, -5.7A PNP LOW $V_{CE(SAT)}$ TRANSISTOR

FEATURES

- * Low collector-emitter saturation voltage $V_{CE(SAT)}$
- * High collector current capability: I_C and I_{CM}
- * Higher efficiency leading to less heat generation
- * Reduced printed-circuit board requirements
- * Complement: USSN4041



SOT-223

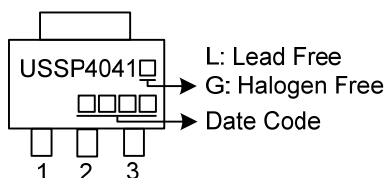
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
USSP4041L-AA3-R	USSP4041G-AA3-R	SOT-223	B	C	E	Tape Reel

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

USSP4041G-AA3-R	
(1)Packing Type	(1) R: Tape Reel
(2)Package Type	(2) AA3: SOT-223
(3)Green Package	(3) G: Halogen Free and Lead Free, L: Lead Free

MARKING



■ ABSOLUTE MAXIMUM RATING ($T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	-60	V
Collector-Emitter Voltage	V_{CEO}	-60	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	DC	I_C	-5.7
	Peak	I_{CM}	-15
Power Dissipation ($T_A \leq 25^\circ\text{C}$)	P_D	1	W
Junction Temperature	T_J	+150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-65 ~ +150	$^\circ\text{C}$

Notes: 1. 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.

2. Device mounted on a FR4 printed-circuit board, single-sided copper; tin-plated, mounting pad for collector 1 cm^2 .

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	125	$^\circ\text{C/W}$
Junction to Case	θ_{JC}	10	$^\circ\text{C/W}$

Note: Device mounted on a FR4 printed-circuit board, single-sided copper; tin-plated, mounting pad for collector 1 cm^2 .

■ ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector to Base Breakdown Voltage	BV_{CBO}	$I_C=-100\mu\text{A}$, $I_E=0$	-60			V
Collector to Emitter Breakdown Voltage	BV_{CEO}	$I_C=-1\text{mA}$, $I_B=0$	-60			V
Emitter to Base Breakdown Voltage	BV_{EBO}	$I_E=-100\mu\text{A}$, $I_C=0$	-5			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-20\text{V}$, $I_E=0$			-100	nA
		$V_{CB}=-20\text{V}$, $I_E=0$, $T_J=150^\circ\text{C}$			-50	μA
Collector Cut-Off Current	I_{CES}	$V_{CE}=-10\text{V}$, $V_{BE}=0$			-100	nA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=-5\text{V}$, $I_C=0$			-100	nA
Collector-Emitter Saturation Voltage (Note)	$V_{CE(SAT)}$	$I_C=-1\text{A}$, $I_B=-50\text{mA}$		-38	-63	mV
		$I_C=-1\text{A}$, $I_B=-10\text{mA}$		-80	-125	mV
		$I_C=-2\text{A}$, $I_B=-40\text{mA}$		-90	-150	mV
		$I_C=-4\text{A}$, $I_B=-200\text{mA}$		-110	-195	mV
		$I_C=-4\text{A}$, $I_B=-400\text{mA}$		-95	-175	mV
		$I_C=-6\text{A}$, $I_B=-300\text{mA}$		-165	-285	mV
Base-Emitter Saturation Voltage (Note)	$V_{BE(SAT)}$	$I_C=-1\text{A}$, $I_B=-100\text{mA}$		-0.8	-0.9	V
		$I_C=-4\text{A}$, $I_B=-400\text{mA}$		-1.08	-1.2	V
Base-Emitter Turn-On Voltage (Note)	$V_{BE(ON)}$	$V_{CE}=-2\text{V}$, $I_C=-2\text{A}$		-0.73	-0.85	V
Dc Current Gain (Note)	h_{FE}	$V_{CE}=-2\text{V}$, $I_C=-500\text{mA}$	200	340		
		$V_{CE}=-2\text{V}$, $I_C=-1.0\text{A}$	200	330		
		$V_{CE}=-2\text{V}$, $I_C=-2.0\text{A}$	200	310		
		$V_{CE}=-2\text{V}$, $I_C=-4.0\text{A}$	150	270		
		$V_{CE}=-2\text{V}$, $I_C=-6.0\text{A}$	120	240		

Note: Pulse test: $t_p \leq 300\mu\text{s}$, Duty cycle $\leq 2\%$.

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