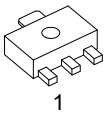
3.0A, 20V NPN LOW $V_{CE(SAT)}$ TRANSISTOR



SOT-89

■ DESCRIPTION

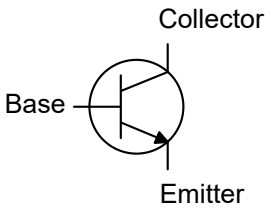
The UTC **USS4320X** is NPN low $V_{CE(SAT)}$ transistor in a medium power and flat lead SOT-89 Surface-Mounted Device (SMD) plastic package.

PNP complement: USS5320X.

■ 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	
USS4320XL-AB3-R	USS4320XG-AB3-R	SOT-89	B	C	E	Tape Reel

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

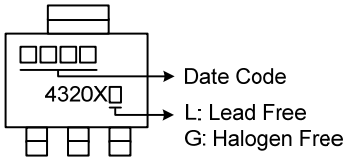


(1) R: Tape Reel

(2) AB3: SOT-89

(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}	20	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	3	A
Peak Collector Current	I_{CM}	5	A
Base Current	I_B	0.5	A
Power Dissipation	P_C	550	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}	225	°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	20			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=1mA, I_B=0	20			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=100μA, I_C=0	5			V
Collector-Base Cut-off Current	I_{CBO}	V_{CB}=20V			100	nA
Collector-Emitter Cut-off Current	I_{CEO}	V_{CE}=20V			100	nA
Emitter-Base Cut-off Current	I_{EBO}	V_{EB}=5V			100	nA
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	I_C=2A, I_B=100mA			1.1	V
		I_C=3A, I_B=300mA			1.2	V
Base-Emitter Turn-On Voltage	$V_{BE(ON)}$	V_{CE}=2V, I_C=1A			1.1	V
DC Current Gain	h_{FE}	V_{CE}=2V, I_C=100mA	220			
		V_{CE}=2V, I_C=500mA	220			
		V_{CE}=2V, I_C=1A	220			
		V_{CE}=2V, I_C=2A	200			
		V_{CE}=2V, I_C=3A	150			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C=500mA,I_B=50mA			70	mV
		I_C=1A,I_B=50mA			120	mV
		I_C=2A,I_B=100mA			240	mV
		I_C=3A,I_B=300mA			310	mV

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