



USS5360X

Preliminary

PNP EPITAXIAL SILICON TRANSISTOR

60V PNP LOW SATURATION MEDIUM POWER TRANSISTOR

DESCRIPTION

The **USS5360X** is an PNP low $V_{CE(SAT)}$ Breakthrough In Small Signal (BISS) transistor in a medium power.

NPN complement: USS4360X.

FEATURES

- * Very low collector-emitter saturation voltage $V_{CE(SAT)}$
- * High collector current capability I_C and ICM
- * High collector current gain (h_{FE}) at high I_C
- * High energy efficiency due to less heat generation
- * Smaller required Printed-Circuit Board (PCB) area than for conventional transistors

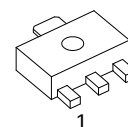
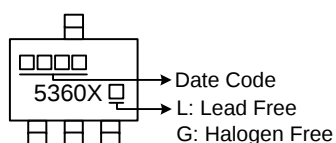
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
USS5360XL-AB3-R	USS5360XG-AB3-R	SOT-89	B	C	E	Tape Reel

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

USS5360XG-AB3-R	(1)Packing Type (2)Package Type (3)Green Package	(1) R: Tape Reel (2) AB3: SOT-89 (3) G: Halogen Free and Lead Free, L: Lead Free
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MARKING



SOT-89

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

PARAMETER	SYMBOL	RATINGS	UNIT
Collector to Base Voltage	V _{CBO}	-80	V
Collector to Emitter Voltage	V _{CEO}	-60	V
Emitter to Base Voltage	V _{EBO}	-7	V
Base Current	I _B	-500	mA
Collector Current	I _C	-3	A
Peak Collector Current (t _p ≤1ms)	I _{CM}	-6	A
Collector Dissipation	P _C	0.95	W
Junction Temperature	T _J	+150	°C
Storage Temperature	T _{STG}	-65 ~ +150	°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. Single pulse, P_W=10ms.

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ _{JA}	132	°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	-80			V
Collector-Emitter Breakdown Voltage	BV _{CEO}	I _C =-1mA	-60			V
Emitter-Base Breakdown Voltage	BV _{EBO}	I _E =-100μA	-7			V
Collector-Base Cut-off Current	I _{CBO}	V _{CB} =-48V, I _E =0A			-100	nA
Collector-Emitter Cut-off Current	I _{CES}	V _{CE} =-48V, V _{BE} =0V			-100	nA
Emitter-Base Cut-off Current	I _{EBO}	V _{EB} =-5V, I _C =0A			-100	nA
Base-Emitter On Voltage (Note)	V _{BE(ON)}	V _{CE} =-5V, I _C =-1V			-1.1	V
Base-Emitter Saturation Voltage (Note)	V _{BE(SAT)}	I _C =-1A, I _B =-100mA			-1.2	V
Collector-Emitter Saturation Voltage (Note)	V _{CE(SAT)}	I _C =-500mA, I _B =-50mA			-150	mV
		I _C =-1A, I _B =-100mA			-200	mV
		I _C =-2A, I _B =-200mA			-450	mV
		I _C =-3A, I _B =-300mA			-550	mV
DC Current Transfer Ratio (Note)	h _{FE}	I _C =-50mA, V _{CE} =-5V	150			
		I _C =-500mA, V _{CE} =-5V	130			
		I _C =-1A, V _{CE} =-5V	120			
		I _C =-2A, V _{CE} =-5V	100			
		I _C =-3A, V _{CE} =-5V	80			
Transition Frequency (Note)	f _T	V _{CE} =-10V, I _C =-50mA, f=100MHz	65	130		MHz
Collector Capacitance	C _{OB}	V _{CB} =-10V, I _E =I _C =0A, f=1MHz		28	32	pF

Note : Measured under pulsed conditions. Pulse Test: Pulse width ≤ 300μs, Duty cycle≤2%.

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