



USS4350

Preliminary

NPN SILICON TRANSISTOR

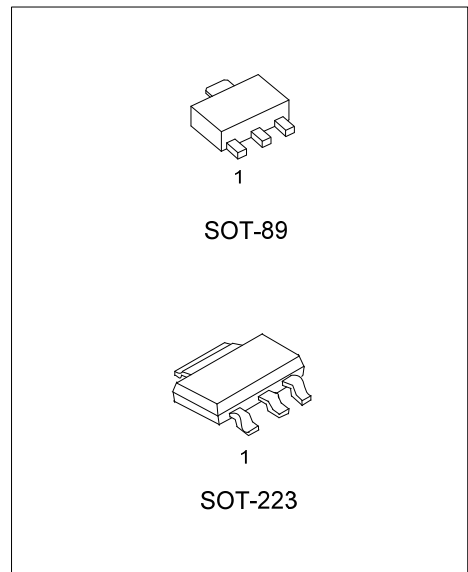
50V, 5A NPN LOW $V_{CE(SAT)}$ TRANSISTOR

DESCRIPTION

The **UTC USS4350** is a low $V_{CE(SAT)}$ NPN transistor designed for applications, such as: DC/DC converter, supply line switching, battery charger, linear voltage regulation, driver in low supply voltage applications and inductive load driver.

FEATURES

- * Collector-emitter saturation voltage:50V
- * High collector current gain (h_{FE}) under high I_C conditions
- * High collector current capability
- * Higher efficiency resulting in less heat generation
- * Complementary to UTC USS5350
- * Halogen Free



ORDERING INFORMATION

Ordering Number	Package	Pin Assignment			Packing
		1	2	3	
USS4350G-AA3-R	SOT-223	B	C	E	Tape Reel
USS4350G-AB3-R	SOT-89	B	C	E	Tape Reel

	(1)Packing Type	(1) R: Tape Reel
	(2)Package Type	(2) AA3: SOT-223, AB3: SOT-89
	(3)Halogen Free	(3) G: Halogen Free

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

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		V _{CBO}	60	V
Collector-Emitter Voltage		V _{CEO}	50	V
Emitter-Base Voltage		V _{EBO}	6	V
Collector Current	DC	I _C	3	A
	Peak	I _{CM}	5	A
Peak Base Current		I _{BM}	1	A
Power Dissipation (T _C =25°C) (Note 2)	SOT-89	P _D	1.4	W
	SOT-223		2	
Junction Temperature		T _J	150	°C
Operating Temperature		T _{OPR}	-65 ~ +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. Device mounted on a printed-circuit board; single sided copper; tinplated; mounting pad for collector 6 cm²

■ THERMAL DATA

PARAMETER		SYMBOL	MIN	TYP	MAX	UNIT
Junction to Ambient (Note)	SOT-89	θ _{JA}			90	°C/W
	SOT-223				62.5	

Note: Device mounted on a printed-circuit board; single sided copper; tinplated; mounting pad for collector 6 cm²

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut-off Current	I _{CBO}	V _{CB} =50 V, I _E =0			100	nA
Emitter Cut-off Current	I _{EBO}	V _{EB} =5 V, I _C =0			100	nA
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	I _C =500 mA, I _B =50 mA			90	mV
		I _C =1 A, I _B =50 mA			170	mV
		I _C =2 A, I _B =200 mA (Note)			290	mV
Base-Emitter Saturation Voltage	V _{BE(SAT)}	I _C =2 A, I _B =200 mA (Note)			1.2	V
Base-Emitter Turn-On Voltage	V _{BE(ON)}	V _{CE} =2V; I _C =1 A (Note)			1.1	V
DC Current Gain	h _{FE1}	V _{CE} =2V, I _C =500 mA	200			
		V _{CE} =2V, I _C =1 A (Note)	200			
		V _{CE} =2V, I _C =2 A (Note)	100			
Equivalent On-Resistance	R _{CE(SAT)}	I _C =2 A, I _B =200 mA (Note)		110	<145	mΩ
Transition Frequency	f _T	I _C =100 mA, V _{CE} =5 V, f=100 MHz	100			MHz
Collector Capacitance	C _C	V _{CB} =10 V; I _E =I _e =0; f=1 MHz			30	pF

Note: Pulse test: t_p ≤ 300 μs; Duty cycle ≤ 2%

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