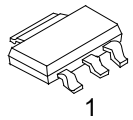
USS4350Z **Preliminary** ***NPN SILICON TRANSISTOR***

3.0A, 50V NPN LOW $V_{CE(SAT)}$ TRANSISTOR



SOT-223

■ DESCRIPTION

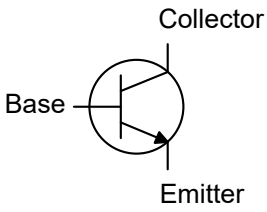
The UTC **USS4350Z** is NPN low $V_{CE(SAT)}$ transistor in a medium power and flat lead SOT-223 Surface-Mounted Device (SMD) plastic package.

PNP complement: USS5350Z.

■ 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

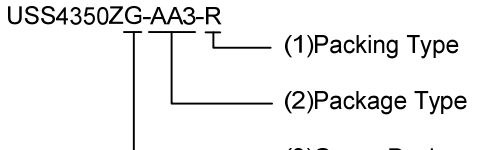
■ EQUIVALENT CIRCUIT



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
USS4350ZL-AA3-R	USS4350ZG-AA3-R	SOT-223	B	C	E	Tape Reel

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

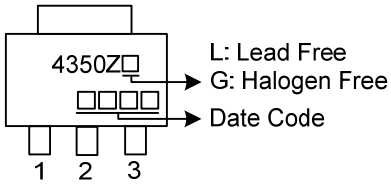


(1) R: Tape Reel

(2) AA3: SOT-223

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

■ MARKING



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

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	50	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	1.35	W
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}	92	°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	50			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=1mA, I_B=0	50			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=100μA, I_C=0	5			V
Collector-Base Cut-off Current	I_{CBO}	V_{CB}=50V, I_E=0			100	nA
Collector-Emitter Cut-off Current	I_{CEO}	V_{CE}=50V, 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=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			1.2	V
DC Current Gain	h_{FE}	V_{CE}=2V, I_C=100mA	300			
		V_{CE}=2V, I_C=500mA	300			
		V_{CE}=2V, I_C=1A	300			
		V_{CE}=2V, I_C=2A	200			
		V_{CE}=2V, I_C=3A	100			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C=500mA,I_B=50mA			80	mV
		I_C=1A,I_B=50mA			160	mV
		I_C=2A,I_B=100mA			280	mV
		I_C=2A,I_B=200mA			260	mV
		I_C=3A,I_B=300mA			370	mV