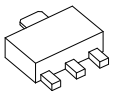
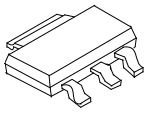
USS5350

Preliminary ***PNP EPITAXIAL SILICON TRANSISTOR***

50V,3A PNP LOW $V_{CE(SAT)}$ TRANSISTOR



SOT-89



SOT-223

■ 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: USS4350.

■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
USS5350L-AB3-R	USS5350G-AB3-R	SOT-89	B	C	E	Tape Reel
USS5350L-AA3-R	USS5350G-AA3-R	SOT-223	B	C	E	Tape Reel

USS5350L-AB3-R
(1)Packing Type
(2)Package Type
(3)Lead Free

(1) R: Tape Reel
(2) AA3: SOT-223, AB3: SOT-89
(3) G: Halogen Free, L: Lead Free

■ 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
Emitter-Base Voltage		V_{EBO}	-5	V
Collector Current (Note 3)	DC	I_C	-3	A
	Peak	I_{CM}	-5	A
Base Current (DC)		I_B	-0.5	A
Power Dissipation (T_A≤25°C) (Note 2)	SOT-89	P_D	1.4	W
	SOT-223		2	
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. Device mounted on a printed-circuit board; single-sided copper; mounting pad for collector 6cm^2.
3. Pulse test: t_P ≤300 μs; Duty cycle≤2%.

■ THERMAL CHARACTERISTICS

PARAMETER		SYMBOL	RATINGS	UNIT
Junction To Ambient (Note 2)	SOT-89	θ_{JA}	90	°C/W
	SOT-223		62.5	

■ ELECTRICAL CHARACTERISTICS (T_A=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
		V_{CB} = -50 V, I_E = 0, T_J = 150°C			-50	μA
Collector Cut-Off Current	I_{CES}	V_{CE} = -50 V, V_{BE} = 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 = -0.5 A, I_B = -50 mA			-90	mV
		I_C = -1 A, I_B = -50 mA			-180	mV
		I_C = -2 A, I_B = -100 mA			-320	mV
		I_C = -2 A, I_B = -200 mA (Note)			-270	mV
		I_C = -3 A, I_B = -300 mA (Note)			-390	mV
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	I_C = -2 A, I_B = -100 mA			-1.1	V
		I_C = -3 A, I_B = -300 mA (Note)			-1.2	V
Base-Emitter Turn-On Voltage	$V_{BE(ON)}$	V_{CE} = -2 V, I_C = -1 A	-1.1			V
Dc Current Gain	h_{FE}	V_{CE}=-2V, I_C = -0.1 A	200			
		V_{CE}=-2V, I_C =-0.5 A	200			
		V_{CE}=-2V, I_C = -1 A (Note)	200		450	
		V_{CE}=-2V, I_C = -2 A (Note)	130			
		V_{CE}=-2V, I_C = -3 A (Note)	80			
Equivalent On-Resistance	$R_{CE(SAT)}$	I_C = -2 A, I_B = -200 mA, (Note)		90	135	mΩ
Transition Frequency	f_T	V_{CE} = -5 V , I_C = -100 mA, f= 100 MHz	100			MHz
Collector Capacitance	C_C	V_{CB} = -10 V, I_E = i_e = 0, f = 1 MHz			35	pF

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

■ TYPICAL CHARACTERISTICS