



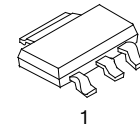
UP1868

PNP SILICON TRANSISTOR

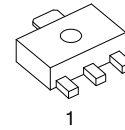
LOW SATURATION VOLTAGE PNP POWER TRANSISTOR

FEATURES

- * Low saturation voltage with equivalent on-resistance be $R_{CE(SAT)}$ about $40m\Omega$ at 5A)
- * High gain that can be replace parts for power MOSFET.



SOT-223



SOT-89

ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UP1868-AA3-R	UP1868L-AA3-F-R	SOT-223	B	C	E	Tape Reel
UP1868-AB3-R	UP1868L-AB3-F-R	SOT-89	B	C	E	Tape Reel

UP1868L-AA3-R

- (1)Packing Type
- (2)Package Type
- (3)Lead Free

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

■ **ABSOLUTE MAXIMUM RATINGS** ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	-15	V
Collector-Emitter Voltage	V_{CEO}	-12	V
Emitter-Base Voltage	V_{EBO}	-6	V
Peak Pulse Current	$I_{C(PEAK)}$	-20	A
Continuous Collector Current	I_C	-6	A
Power Dissipation	SOT-223	P_C	3
	SOT-89		0.75
Junction Temperature	T_J	+150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-40 ~ +150	$^{\circ}\text{C}$

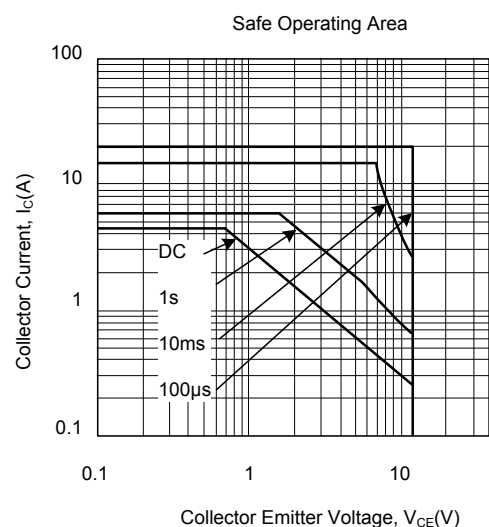
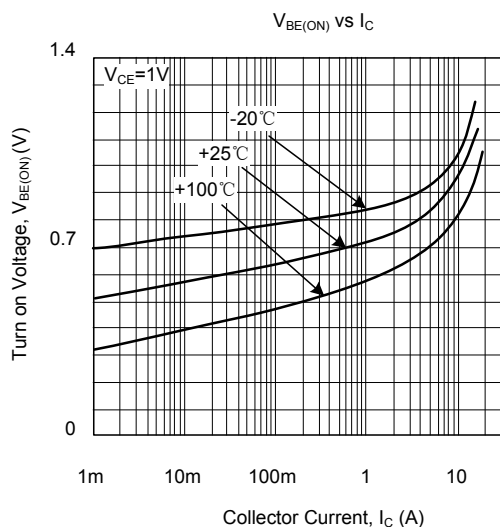
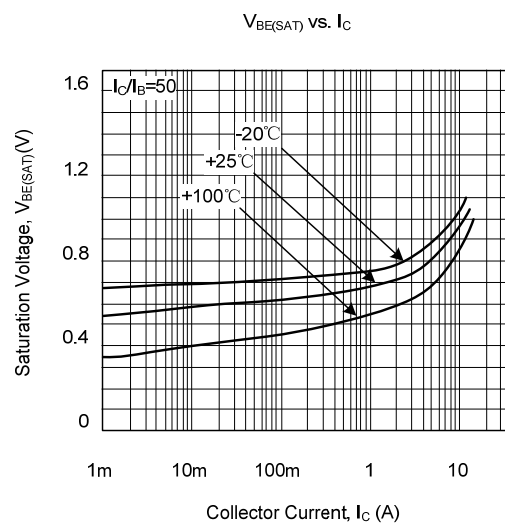
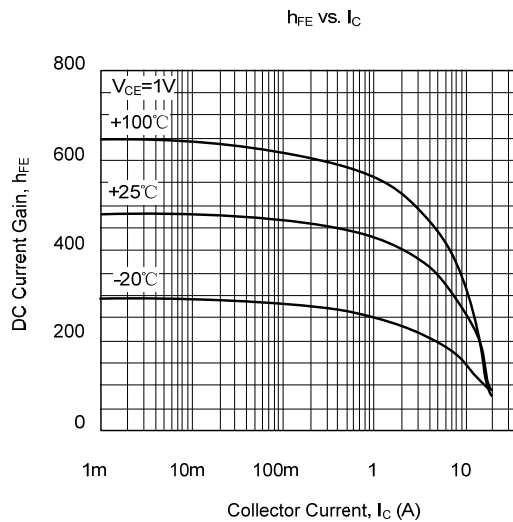
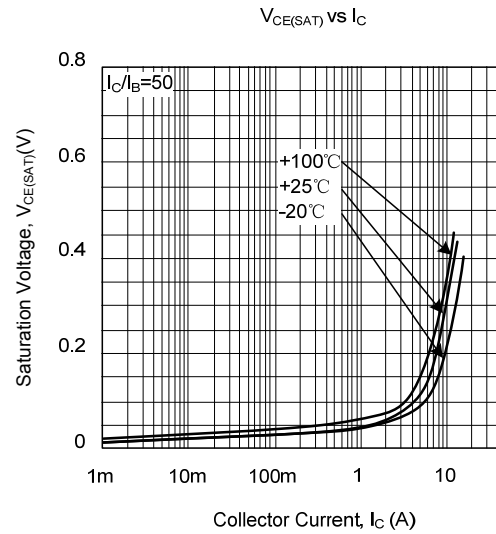
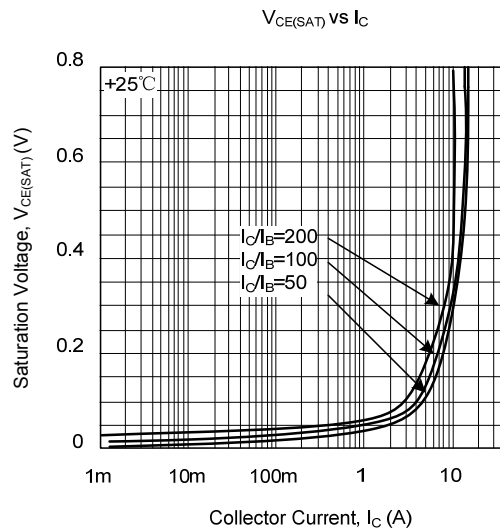
Note Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ **ELECTRICAL CHARACTERISTICS** ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Breakdown Voltage (Note)	BV_{CBO}	$I_C=-100\mu\text{A}$	-15			V
	BV_{CEO}	$I_C=-10\text{mA}$	-12			V
	BV_{EBO}	$I_E=-100\mu\text{A}$	-6			V
Collector-Emitter Saturation Voltage (Note)	$V_{CE(SAT)}$	$I_C=-500\text{mA}, I_B=-5\text{mA}$		-55	-100	mV
		$I_C=-2\text{A}, I_B=-50\text{mA}$		-132	-160	mV
		$I_C=-6\text{A}, I_B=-250\text{mA}$			-440	mV
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=-6\text{A}, I_B=-250\text{mA}$		-1050	-1200	mV
Base-Emitter Turn-On Voltage (Note)	$V_{BE(ON)}$	$V_{CE}=-1\text{V}, I_C=-6\text{A}$		-950	-1050	mV
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-12\text{V}$			-10	nA
		$V_{CB}=-12\text{V}, T_A=100^{\circ}\text{C}$			-1.0	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=-6\text{V}$			-10	nA
DC Current Gain (Note)	h_{FE1}	$V_{CE}=-1\text{V}, I_C=-10\text{mA}$	300			
	h_{FE2}	$V_{CE}=-1\text{V}, I_C=-500\text{mA}$	300		1000	
	h_{FE3}	$V_{CE}=-1\text{V}, I_C=-5\text{mA}$	200			
	h_{FE4}	$V_{CE}=-1\text{V}, I_C=-10\text{A}$	150			
Current Gain Bandwidth Product	f_T	$V_{CE}=-10\text{V}, I_C=-100\text{mA}, f=50\text{MHz}$		80		MHz
Output Capacitance	C_{ob}	$V_{CB}=-20\text{V}, f=1\text{MHz}$		161		pF
Switching Times	t_{ON}	$I_C=-4\text{A}, I_{B1}=-400\text{mA}$		120		ns
	t_{OFF}	$I_{B2}=400\text{mA}, V_{CC}=-10\text{V}$		116		

Note: Pulse test: Pulse Width=300 μs , Duty Cycle $\leq 2\%$

TYPICAL CHARACTERISTICS



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