



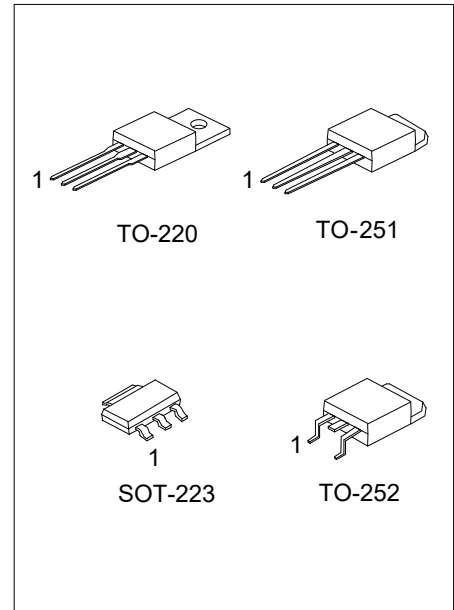
HJ44H11

NPN SILICON TRANSISTOR

NPN EPITAXIAL PLANAR TRANSISTOR

■ DESCRIPTION

The UTC **HJ44H11** is designed for such applications as: series, shunt and switching regulators; output and driver stages of amplifiers operating at frequencies from DC to greater than 1MHz; low and high frequency inverters/converters; and many others.



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
HJ44H11L-AA3-R	HJ44H11G-AA3-R	SOT-223	B	C	E	Tape Reel
HJ44H11L-TA3-T	HJ44H11G-TA3-T	TO-220	B	C	E	Tube
HJ44H11L-TM3-T	HJ44H11G-TM3-T	TO-251	B	C	E	Tube
HJ44H11L-TN3-T	HJ44H11G-TN3-T	TO-252	B	C	E	Tube
HJ44H11L-TN3-R	HJ44H11G-TN3-R	TO-252	B	C	E	Tape Reel

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

<p>HJ44H11G-AA3-R</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p>	<p>(1) R: Tape Reel, T: Tube (2) AA3: SOT-223, TA3: TO-220, TM3; TO-251 TN3: TO-252 (3) G: Halogen Free and Lead Free, L: Lead Free</p>
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■ MARKING

SOT-223	TO-220 / TO-251 / TO-252

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

PARAMETER		SYMBOL	RATINGS	UNIT
Collector- Emitter Voltage		V_{CEO}	80	V
Collector-Emitter Voltage		V_{CES}	80	V
Emitter-Base Voltage		V_{EBO}	5	V
Collector Current	Continuous	I_C	10	A
	Peak ($T_C=25^\circ\text{C}$)	I_{CM}	15	A
Base Current		I_B	5	A
Power Dissipation ($T_C=25^\circ\text{C}$)	SOT-223	P_D	5	W
	TO-220		65	W
	TO-251/TO-252		20	W
Junction Temperature		T_J	-40 ~ +150	$^\circ\text{C}$
Storage Temperature		T_{STG}	-55 ~ +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.

■ THERMAL DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Case (Note)	SOT-223	θ_{JC}	25	$^\circ\text{C/W}$
	TO-220		1.92	$^\circ\text{C/W}$
	TO-251/TO-252		6.25	$^\circ\text{C/W}$

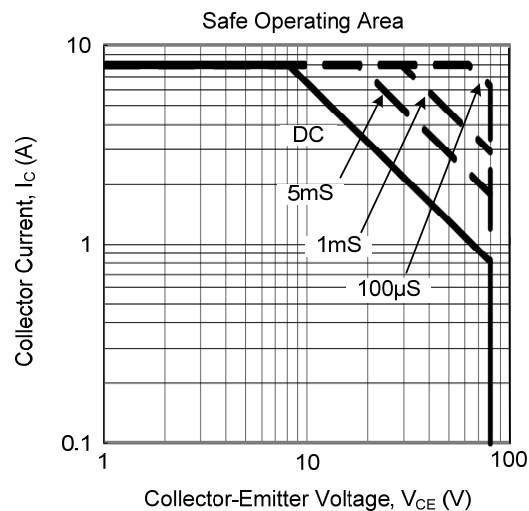
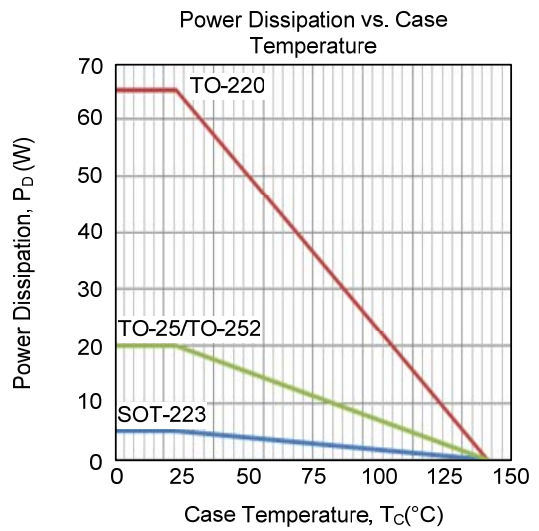
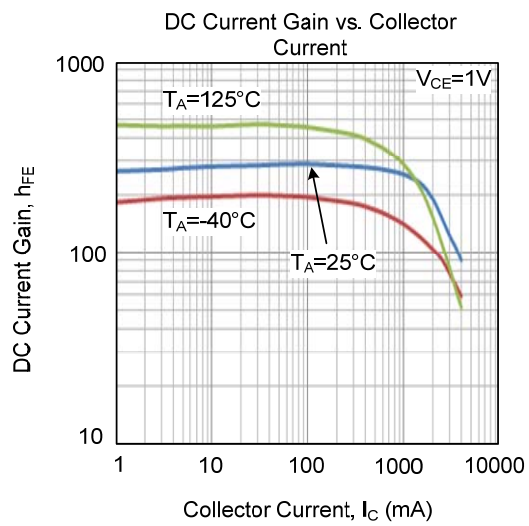
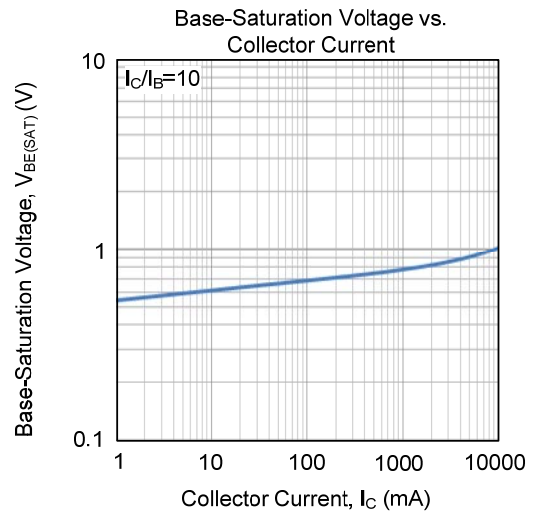
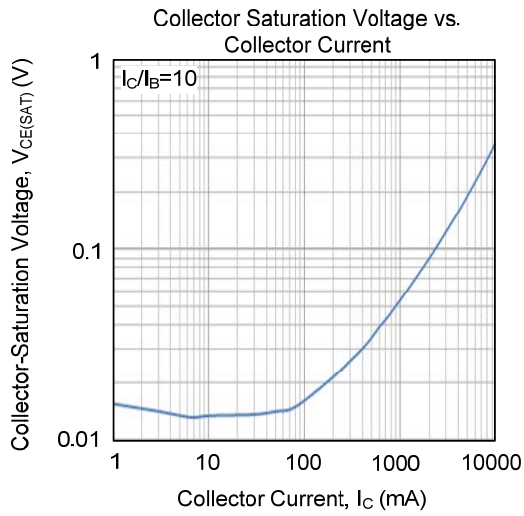
Note: Device mounted on FR-4 substrate P_c board, 2oz copper, with 1inch square copper plate.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=30\text{mA}$, $I_B=0$	80			V
Collector-Emitter Breakdown Voltage	BV_{CES}	$I_C=1\text{mA}$, $I_B=0$	80			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=1\text{mA}$, $I_C=0$	5			V
Collector Cut-off Current	I_{CBO}	$V_{CB}=80\text{V}$, $V_{EB}=0$			1	μA
Collector Cut-Off Current	I_{CES}	$V_{CE}=80\text{V}$, $V_{EB}=0$			1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=5\text{V}$, $I_C=0$			1	μA
Collector-Emitter Saturation Voltage(Note)	$V_{CE(SAT)}$	$I_C=8\text{A}$, $I_B=0.4\text{A}$			1	V
Base-Emitter Saturation Voltage(Note)	$V_{BE(SAT)}$	$I_C=8\text{A}$, $I_B=0.8\text{A}$			1.5	V
DC Current Gain (Note)	h_{FE1}	$V_{CE}=1\text{V}$, $I_C=2\text{A}$	60		500	
	h_{FE2}	$V_{CE}=1\text{V}$, $I_C=4\text{A}$	40		200	
Output Capacitance	C_{OB}	$V_{CB}=10\text{V}$		65		pF
Transition Frequency	f_T	$V_{CE}=10\text{V}$, $I_C=500\text{mA}$, $f=20\text{MHz}$		50		MHz
Delay and Rise Times	$t_D + t_R$	$I_C=5.0\text{A}$, $I_{B1}=0.5\text{A}$		33		ns
Storage Time	t_S	$I_C=5.0\text{A}$, $I_{B1}=I_{B2}=0.5\text{A}$		2300		ns
Fall Time	t_F			123		ns

Note: Pulse Test: Pulse Width $\leq 380\mu\text{s}$, Duty Cycle $\leq 2\%$.

TYPICAL CHARACTERISTICS



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