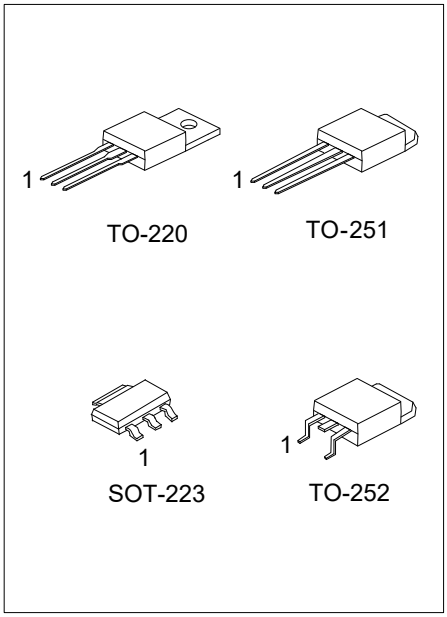
HJ44H11

NPN SILICON TRANSISTOR

NPN EPITAXIAL PLANAR TRANSISTOR



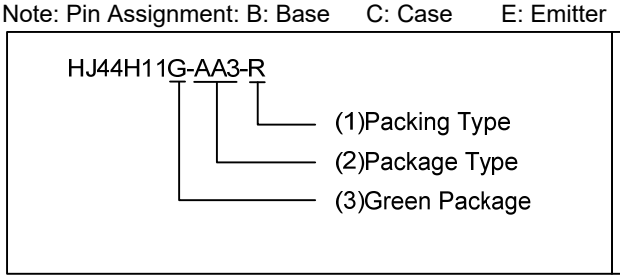
■ DESCRIPTION

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

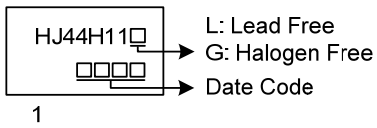
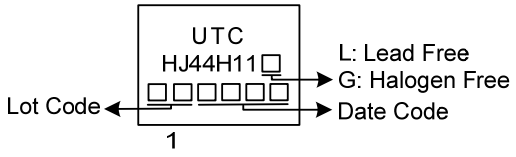
Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
HJ44H11L-AA3-R	HJ44H11G-AA3-R	SOT-223	B	C	E	Tape Reel
HJ44H11L-TA3-T	HJ44H11G-TA3-T	TO-220	B	C	E	Tube
HJ44H11L-TM3-T	HJ44H11G-TM3-T	TO-251	B	C	E	Tube
HJ44H11L-TN3-T	HJ44H11G-TN3-T	TO-252	B	C	E	Tube
HJ44H11L-TN3-R	HJ44H11G-TN3-R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

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



(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

■ MARKING

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

■ ABSOLUTE MAXIMUM RATINGS (T_A=25°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°C)	I_{CM}	15	A
Base Current		I_B	5	A
Power Dissipation (T_C=25°C)	SOT-223	P_D	5	W
	TO-220		65	W
	TO-251/TO-252		20	W
Junction Temperature		T_J	-40 ~ +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 Case (Note)	SOT-223	θ_{JC}	25	°C/W
	TO-220		1.92	°C/W
	TO-251/TO-252		6.25	°C/W

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

Note: Pulse Test: Pulse Width ≤ 380us, Duty Cycle ≤ 2%.

■ TYPICAL CHARACTERISTICS