



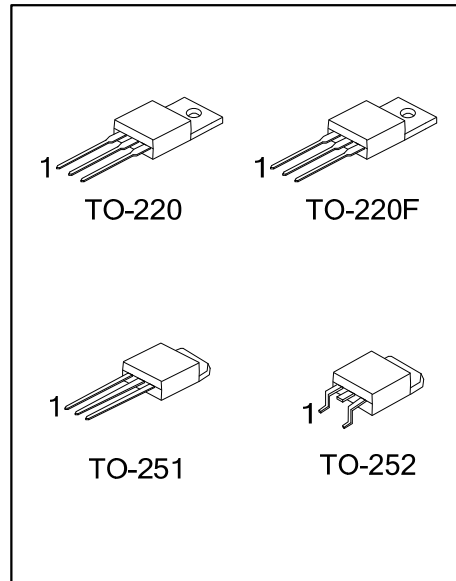
2SA1012

PNP SILICON TRANSISTOR

HIGH CURRENT SWITCHING APPLICATION

■ FEATURES

- *Low Collector Saturation Voltage
 $V_{CE(SAT)} = -0.4V(\text{max.})$ At $I_C = -3A$
- *High Speed Switching Time: $t_S = 1.0\mu s$ (Typ.)
- *Complementary To 2SC2562



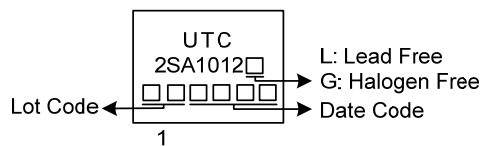
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SA1012L-x-TA3-T	2SA1012G-x-TA3-T	TO-220	B	C	E	Tube
2SA1012L-x-TF3-T	2SA1012G-x-TF3-T	TO-220F	B	C	E	Tube
2SA1012L-x-TM3-T	2SA1012G-x-TM3-T	TO-251	B	C	E	Tube
2SA1012L-x-TN3-R	2SA1012G-x-TN3-R	TO-252	B	C	E	Tape Reel

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

<p>2SA1012G-x-TA3-T</p> <p>(1) Packing Type (2) Package Type (3) Rank (4) Green Package</p>	<p>(1) T: Tube, R: Tape Reel (2) TA3: TO-220, TF3: TO-220F, TM3: TO-251, TN3: TO-252 (3) x: reference to Classification of h_{FE1} (4) G: Halogen Free and Lead Free, L: Lead Free</p>
--	--

■ MARKING



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

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		V _{CBO}	-60	V
Collector-Emitter Voltage		V _{CEO}	-50	V
Collector-Emitter Voltage		V _{EBO}	-5	V
Base Current	DC	I _B	-1	A
	Pulse	I _{BP}	-2	A
Peak Collector Current	DC	I _C	-5	A
	Pulse	I _{CP}	-8	A
Power Dissipation (T _C =25°C)	TO-220	P _D	25	W
	TO-220F		23	W
	TO-251		15	W
	TO-252			
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-Case	TO-220	θ _{JC}	5	°C/W
	TO-220F		5.43	°C/W
	TO-251		8.3	°C/W
	TO-252			

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

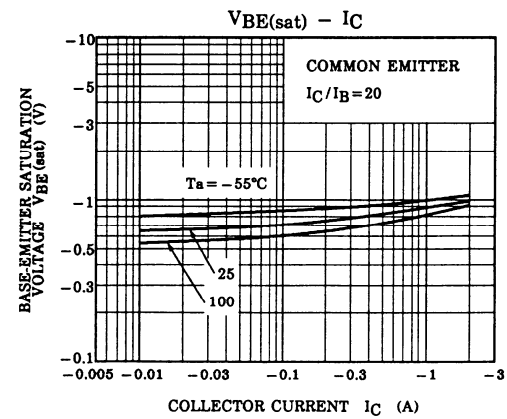
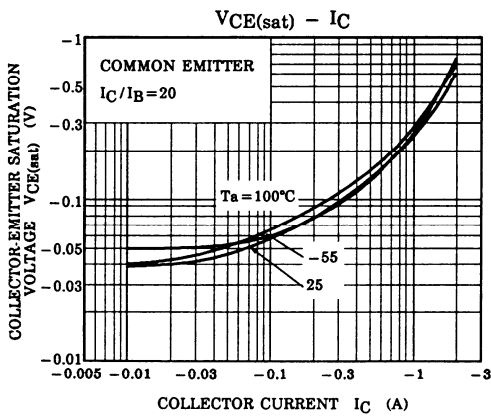
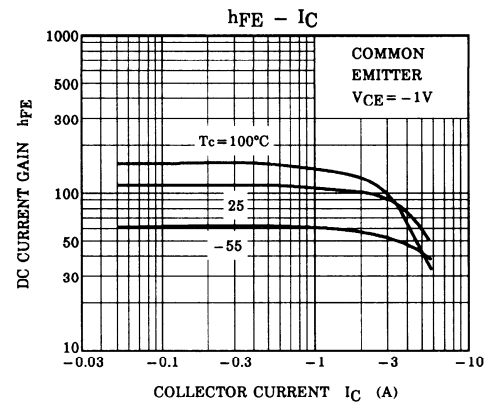
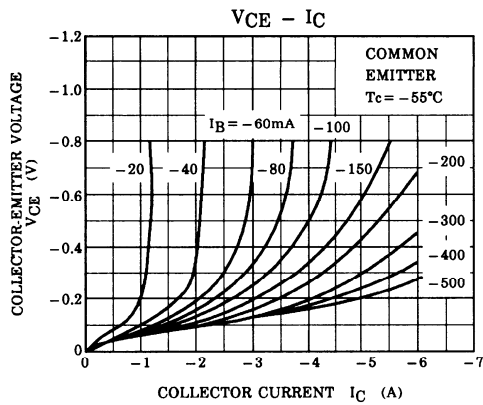
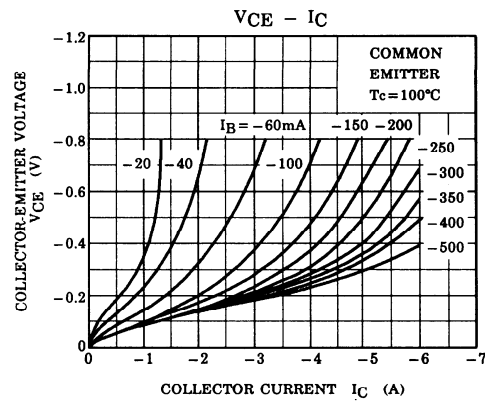
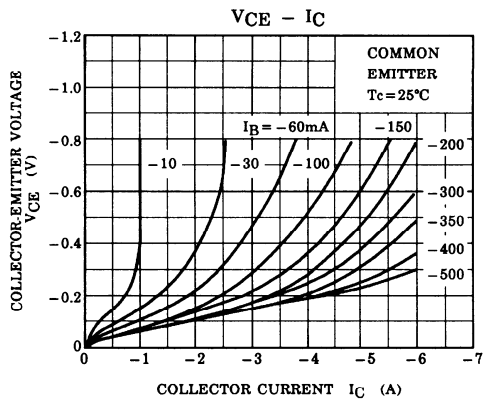
■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage		BV _{CBO}	I _C =-100μA, I _E =0	-60			V
Collector-Emitter Breakdown Voltage		BV _{CEO}	I _C =-10mA, I _B =0	-50			V
Emitter-Base Breakdown Voltage		BV _{EBO}	I _E =-100μA, I _C =0	-5			V
Collector Cut-off Current		I _{CBO}	V _{CB} =-50V, I _E =0			-1.0	μA
Emitter Cut-off Current		I _{EBO}	V _{EB} =-5V, I _C =0			-1.0	μA
DC Current Gain		h _{FE1}	V _{CE} =-1V, I _C =-1A	70		360	
		h _{FE2}	V _{CE} =-1V, I _C =-3A	30			
Collector-Emitter Saturation Voltage		V _{CE(SAT)}	I _C =-3A, I _B =-0.15A		-0.2	-0.4	V
Base-Emitter Saturation Voltage		V _{BE(SAT)}	I _C =-3A, I _B =-0.15A		-0.9	-1.2	V
Transition frequency		f _T	V _{CE} =-4V, I _C =-1A		60		MHz
Collector output capacitance		C _{ob}	V _{CB} =-10V, I _E =0, f=1MHz		170		pF
Switching time	Turn-on time	t _{ON}			0.1		μs
	Storage time	t _S			1.0		μs
	Fall time	t _F				0.1	

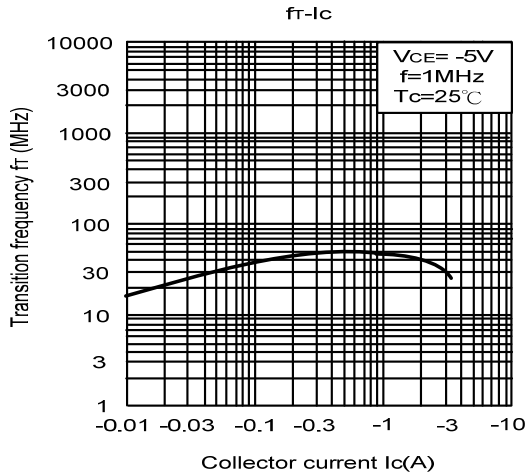
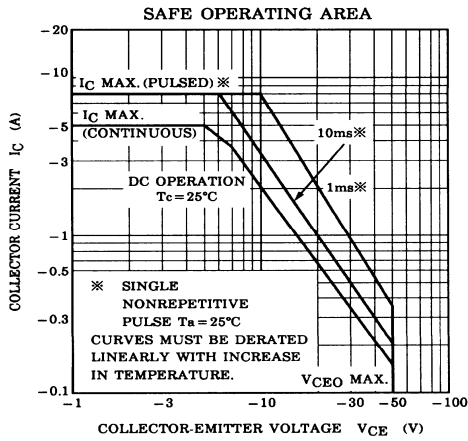
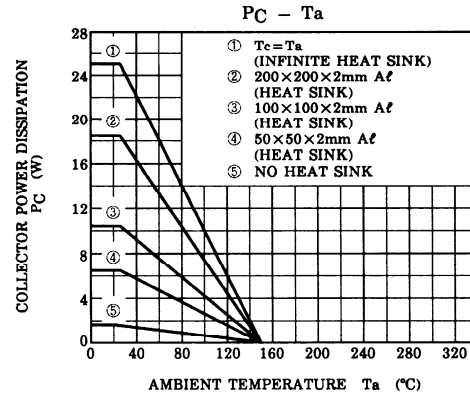
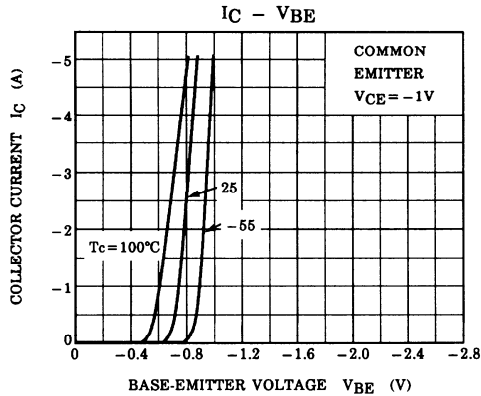
■ CLASSIFICATION of h_{FE1}

RANK	O	Y	R	R1
RANGE	70 ~ 140	120 ~ 240	180 ~ 360	>255

TYPICAL CHARACTERISTICS



TYPICAL CHARACTERISTICS (Cont.)



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. UTC reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.