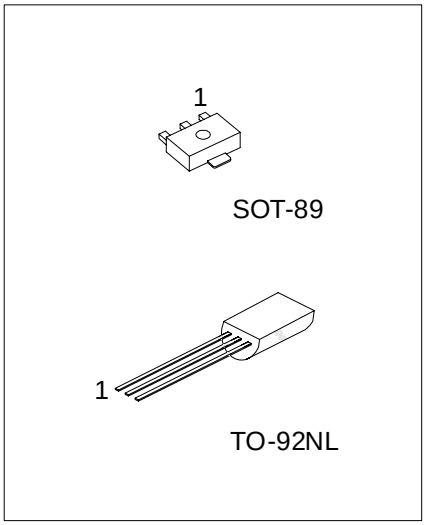
2SA1020

PNP SILICON TRANSISTOR

SILICON PNP EPITAXIAL TRANSISTOR



*Pb-free plating product number:2SA1020L

■ DESCRIPTION

The UTC 2SA1020 is designed for power amplifier and power switching applications.

■ FEATURES

*Low collector saturation voltage:
$V_{CE(SAT)}$=-0.5V(max.) (I_C=-1A)
*High speed switching time: t_{STG}=1.0μs(Typ.)
*Complement to UTC 2SC2655

■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
2SA1020-x-AB3-R	2SA1020L-x-AB3-R	SOT-89	B	C	E	Tape Reel
2SA1020-x-T9N-B	2SA1020L-x-T9N-B	TO-92NL	E	C	B	Tape Box
2SA1020-x-T9N-K	2SA1020L-x-T9N-K	TO-92NL	E	C	B	Bulk

2SA1020L-x-AB3-R
(1)Packing Type
(2)Package Type
(3)Rank
(4)Lead Plating

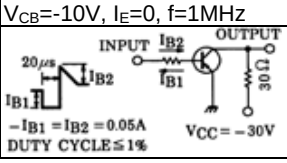
(1) B: Tape Box, K: Bulk, R: Tape Reel
(2) AB3: SOT-89, T9N: TO-92NL
(3) x: refer to Classification of h_{FE1}
(4) L: Lead Free Plating, Blank: Pb/Sn

■ ABSOLUTE MAXIMUM RATINGS (Ta=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		Ic	-2	A
Collector Power Dissipation	TO-92NL	P_C	900	mW
	SOT-89		500	mW
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.

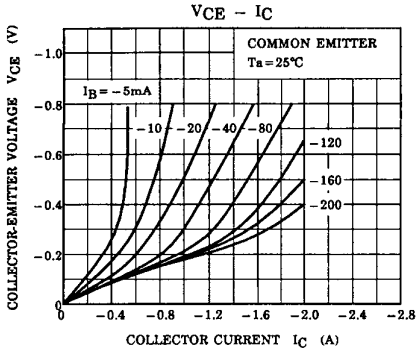
■ ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise specified)

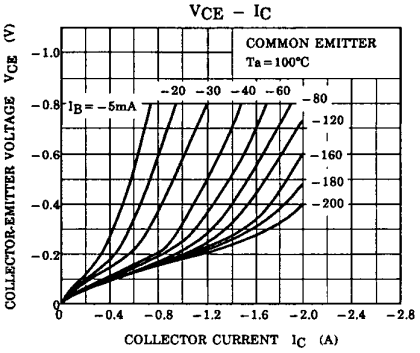
PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector to Emitter Breakdown Voltage		BV_{CEO}	Ic=-10mA, I_B=0	-50			V
Collector Cut-off Current		I_{CBO}	V_{CB}=-50V, I_E=0			-1.0	μA
Emitter Cut-off Current		I_{EBO}	V_{EB}=-5V, I_C=0			-1.0	μA
DC Current Gain		h_{FE1}	V_{CE}=-2V, I_C=-0.5A	70		240	
		h_{FE2}	V_{CE}=-2V, I_C=-1.5A	40			
Collector to Emitter Saturation Voltage		$V_{CE(SAT)}$	Ic=-1A, I_B=-0.05A			-0.5	V
Base to Emitter Saturation Voltage		$V_{BE(SAT)}$	Ic=-1A, I_B=-0.05A			-1.2	V
Transition Frequency		f_T	V_{CE}=-2V, Ic=-0.5A		100		MHz
Collector Output Capacitance		Cob	V_{CB}=-10V, I_E=0, f=1MHz		40		pF
Switching Time	Turn-on Time	t_{ON}			0.1		μs
	Storage Time	t_{STG}			1.0		μs
	Fall Time	t_F			0.1		μs

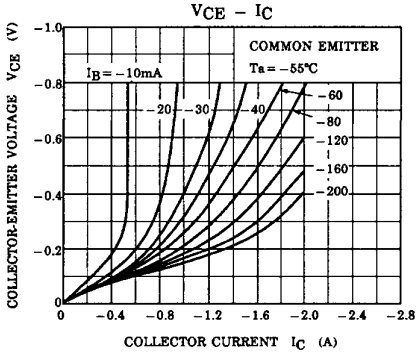
■ CLASSIFICATION OF h_{FE1}

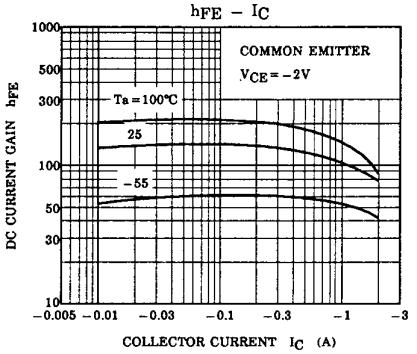
RANK	O	Y
RANGE	70 - 140	120 - 240

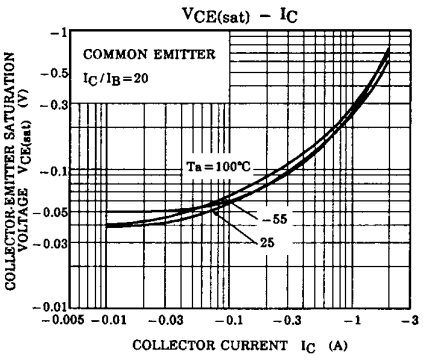
■ TYPICAL CHARACTERISTICS

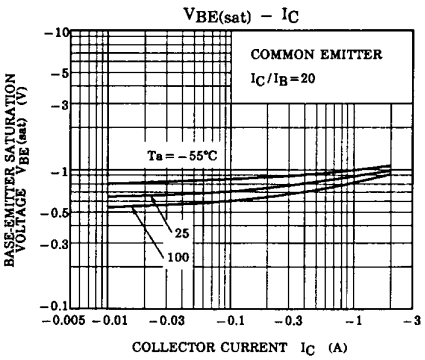












■ TYPICAL CHARACTERISTICS(Cont.)