2SA1012

PNP SILICON TRANSISTOR

HIGH CURRENT SWITCHING APPLICATION

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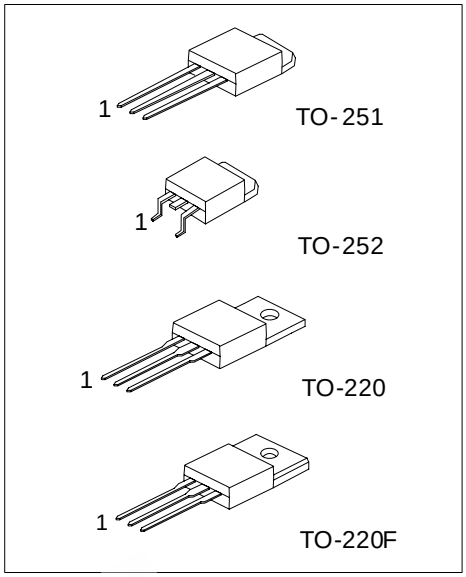


*Pb-free plating product number: 2SA1012L

■ FEATURES

*Low collector saturation voltage
$V_{CE(SAT)}$=-0.4V(max.) at Ic=-3A
*High speed switching time: t_S=1.0μs(Typ.)
*Complementary to 2SC2562

■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
2SA1012-x-TA3-T	2SA1012L-x-TA3-T	TO-220	B	C	E	Tube
2SA1012-x-TF3-T	2SA1012L-x-TF3-T	TO-220F	B	C	E	Tube
2SA1012-x-TM3-T	2SA1012L-x-TM3-T	TO-251	B	C	E	Tube
2SA1012-x-TN3-R	2SA1012L-x-TN3-R	TO-252	B	C	E	Tape Reel
2SA1012-x-TN3-T	2SA1012L-x-TN3-T	TO-252	B	C	E	Tube

2SA1012L-x-TA3-T
(1)Packing Type
(2)Package Type
(3)Rank
(4)Lead Plating

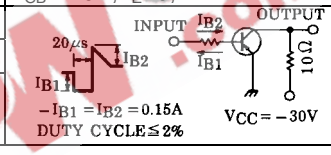
(1) T: Tube, R: Tape Reel
(2) TA3: TO-220, TF3: TO-220F, TM3: TO-251, TN 3: TO-252
(3) x: reference to Classification of h_{FE1}
(4) L: Lead Free Plating Blank: Pb/Sn

■ ABSOLUTE MAXIMUM RATINGS (Ta = 25℃)

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
Peak Collector Current	I_C	-5	A
Power Dissipation	P_D	25	W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55 ~ +150	℃

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.

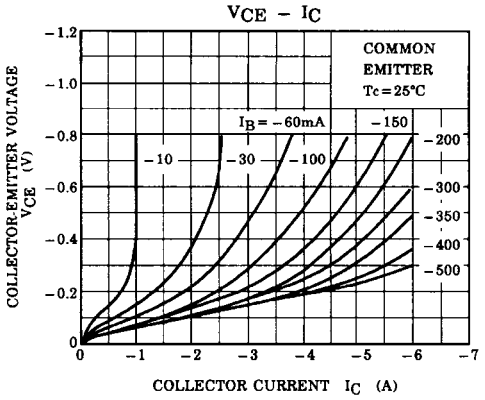
■ ELECTRICAL CHARACTERISTICS (Ta= 25℃, unless otherwise specified.)

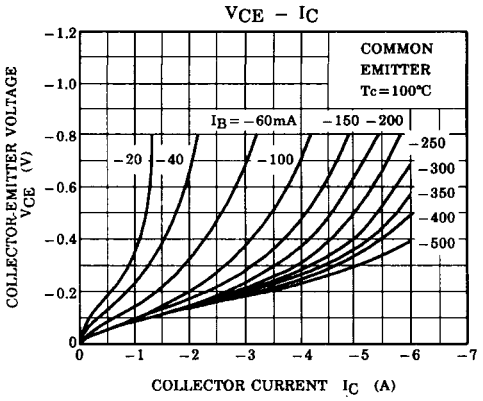
PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage		BV_{CBO}	I_C=-100μA, I_E=0	-60			V
Collector-Emitter Breakdown Voltage		BV_{CEO}	I_C=-10mA, I_B=0	-50			V
Emitter-Base Breakdown Voltage		BV_{EBO}	I_E=-100μA, I_C=0	-5			V
Collector Cut-off Current		I_{CBO}	V_{CB}=-50V, 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		240	
		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		Cob	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		μs

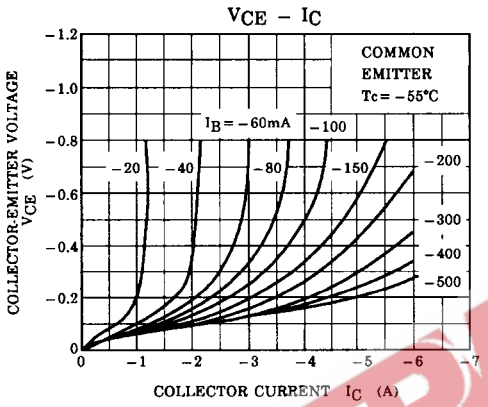
■ CLASSIFICATION of h_{FE1}

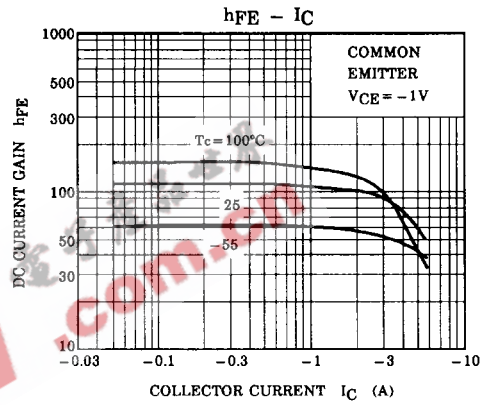
RANK	O	Y
RANGE	70 ~ 140	120 ~ 240

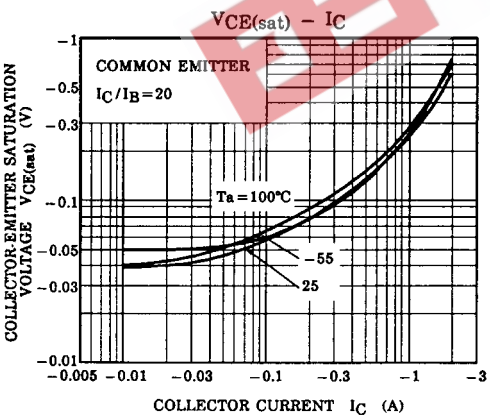
■ TYPICAL CHARACTERISTICS

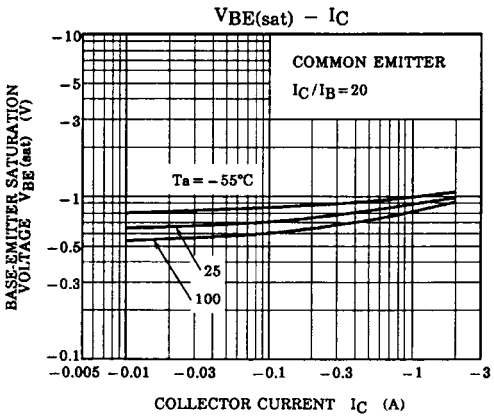












■ TYPICAL CHARACTERICS(cont.)