



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-220 Plastic-Encapsulate Transistors

2SA1012 TRANSISTOR (PNP)

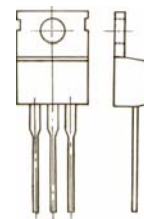
FEATURES

HIGH CURRENT SWITCHING APPLICATIONS.

- Low Collector Saturation Voltage
: $V_{CE(SAT)} = -0.4V(MAX)$ at $I_C = -3A$
- High Speed Switching Time : $t_{stg} = 1.0\mu s$ (Typ.)
- Complementary to 2SC2562

TO-220

1. BASE
2. COLLECTOR
3. EMITTER



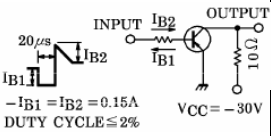
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MAXIMUM RATINGS* $T_A=25^\circ C$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-5	A
P_C	Collector Power Dissipation	25	W
T_j	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-55-150	$^\circ C$

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

ELECTRICAL CHARACTERISTICS(Tamb=25°C unless otherwise specified)

Parameter		Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage		$V_{(BR)CBO}$	$I_C=-1mA, I_E=0$	-60			V
Collector-emitter breakdown voltage		$V_{(BR)CEO}$	$I_C=-1mA, I_B=0$	-50			V
Emitter-base breakdown voltage		$V_{(BR)EBO}$	$I_E=-100\mu A, I_C=0$	-5			V
Collector cut-off current		I_{CBO}	$V_{CB}=-50V, I_E=0$			-1	μA
Emitter cut-off current		I_{EBO}	$V_{EB}=-5V, I_C=0$			-1	μA
DC current gain		$h_{FE(1)}$	$V_{CE}=-1V, I_C=-1A$	70		240	
		$h_{FE(2)} *$	$V_{CE}=-1V, I_C=3A$	30			
Collector-emitter saturation voltage		$V_{CE(sat)} *$	$I_C=-3A, I_B=150mA$		-0.2	-0.4	V
Base-emitter saturation voltage		$V_{BE(SAT)}$	$I_C=-3A, I_B=150mA$		-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}	 $I_{B1} = I_{B2} = 0.15A$ DUTY CYCLE $\leq 2\%$ $V_{CC} = -30V$		0.1		μS
	Storage Time	t_{stg}			1.0		
	Fall Time	t_f			0.1		

Note: $h_{FE(1)}$ Classification O : 70-140, Y : 120-240

*Pulse test: $t_p \leq 300\mu S, \delta \leq 0.02$.

Typical Characteristics

2SA1012

