



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-220 Plastic-Encapsulate Transistors

2SD2012 TRANSISTOR (NPN)

FEATURES

- High DC current gain: $h_{FE}(1)=100(\text{Min})$
- Low voltage: $V_{CE}(\text{sat})=1.0(\text{Max})$

TO—220

1. BASE
2. COLLECTOR
3. EMITTER



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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current -Continuous	3	A
P_C	Collector Dissipation	2	W
T_J, T_{stg}	Junction and Storage Temperature	-55-150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=50\text{mA}, I_B=0$	60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	7			V
Collector cut-off current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$			100	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=7\text{V}, I_C=0$			100	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=5\text{V}, I_C=0.5\text{A}$	100		320	
	$h_{FE(2)}$	$V_{CE}=5\text{V}, I_C=2\text{A}$	20			
Collector-emitter saturation voltage	$V_{CE(\text{sat})}$	$I_C=2\text{A}, I_B=0.2\text{A}$			1	V
Base-emitter voltage	V_{BE}	$V_{CE}=5\text{V}, I_C=0.5\text{A}$			1	V
Transition frequency	f_T	$V_{CE}=5\text{V}, I_C=0.5\text{A}$		3		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		35		pF

Typical Characteristics

2SD2012

