

isc Silicon NPN Power Transistor
2SD612
DESCRIPTION

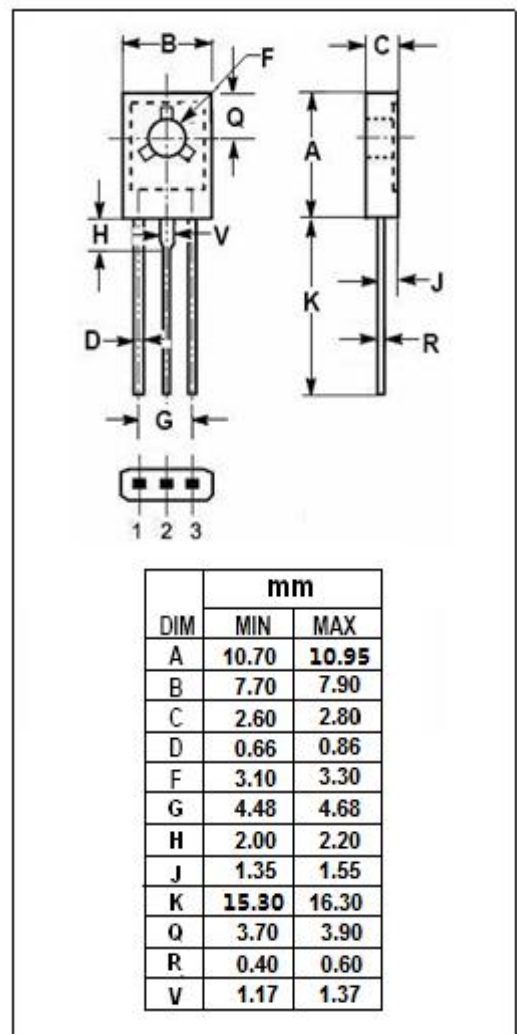
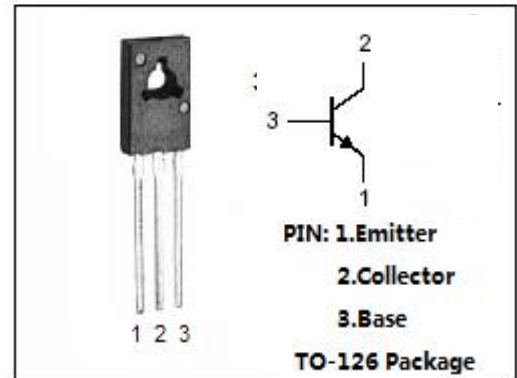
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 25V(\text{Min.})$
- High Collector Dissipation
- Wide Area of Safe Operation
- Complement to Type 2SB632
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for low frequency power amplifier applications.

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	25	V
V_{CEO}	Collector-Emitter Voltage	25	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	2	A
I_{CP}	Collector Current-Pulse	3	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	10	W
	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	1	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



isc Silicon NPN Power Transistor**2SD612****ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=10\ \mu\text{A}; I_E=0$	25			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=1\text{mA}; R_{BE}=\infty$	25			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=10\ \mu\text{A}; I_C=0$	5			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=1.5\text{A}; I_B=0.15\text{A}$		0.3	0.8	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=1.5\text{A}; I_B=0.15\text{A}$		1.1	1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=20\text{V}; I_E=0$			1	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=4\text{V}; I_C=0$			1	μA
h_{FE-1}	DC Current Gain	$I_C=0.5\text{A}; V_{CE}=2\text{V}$	60		320	
h_{FE-2}	DC Current Gain	$I_C=1.5\text{A}; V_{CE}=2\text{V}$	30			
f_T	Current-Gain—Bandwidth Product	$I_C=50\text{mA}; V_{CE}=10\text{V}$		100		MHz
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}, f_{test}=1\text{MHz}$		30		pF
Switching times						
t_{on}	Turn-On Time	$I_C=0.5\text{A}, R_L=24\ \Omega,$ $I_{B1}=I_{B2}=50\text{mA}, V_{CE}=12\text{V}$		0.05		μs
t_f	Fall Time			0.1		μs
t_{stg}	Storage Time			0.4		μs

◆ h_{FE-1} Classifications

D	E	F
60-120	100-200	160-320

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