

isc Silicon NPN Power Transistor
2SD613
DESCRIPTION

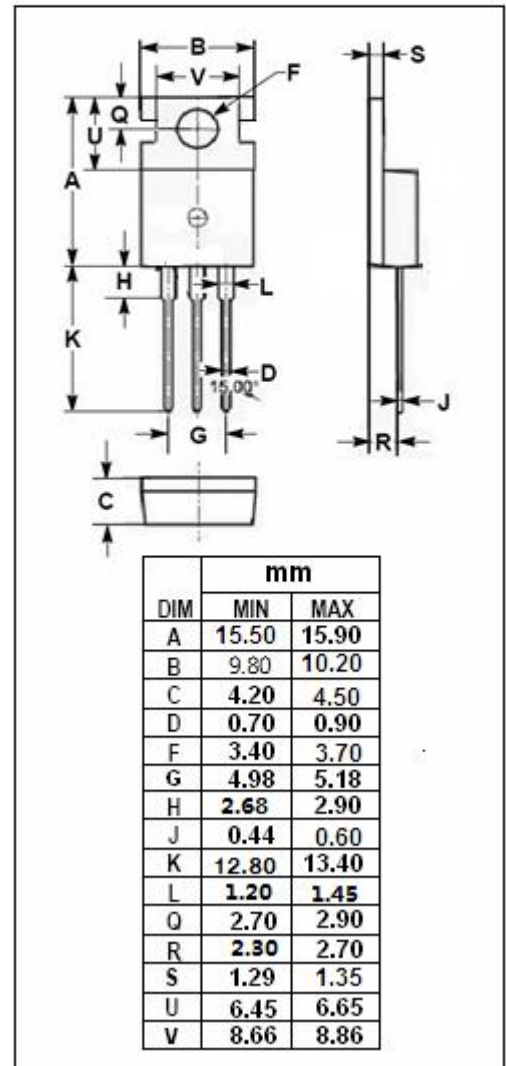
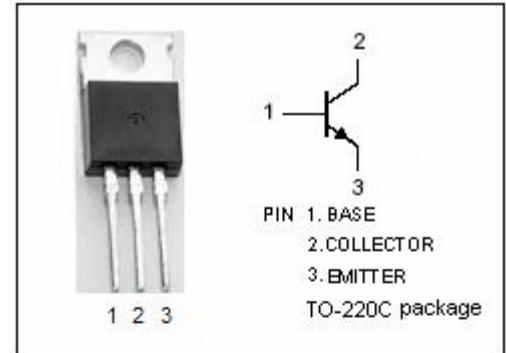
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 85V(\text{Min})$
- Complement to Type 2SB633
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Audio frequency 25~35 watts output applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	85	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	6	A
I_{CM}	Collector Current-Peak	10	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	40	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



isc Silicon NPN Power Transistor**2SD613****ELECTRICAL CHARACTERISTICS****T_c=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 1mA; I _E = 0	100			V
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 10mA; R _{BE} = ∞	85			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 1mA; I _C = 0	6			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 4A; I _B = 0.4A			2.0	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = 1A; V _{CE} = 5V			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 40V; I _E = 0			0.1	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 4V; I _C = 0			0.1	mA
h _{FE-1}	DC Current Gain	I _C = 1A; V _{CE} = 5V	40		320	
h _{FE-2}	DC Current Gain	I _C = 3A; V _{CE} = 5V	20			
C _{OB}	Collector Output Capacitance	I _E = 0; V _{CB} = 10V; f=1MHz		110		pF
f _T	Current-Gain—Bandwidth Product	I _C = 1A; V _{CE} = 5V		15		MHz

Switching Times

t _{on}	Turn-on Time	I _C = 1A, I _{B1} = I _{B2} = 0.1A,		0.28		μs
t _{stg}	Storage Time			3.60		μs
t _f	Fall Time			0.50		μs

◆ h_{FE-1} Classifications

C	D	E	F
40-80	60-120	100-200	160-320

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