

isc Silicon NPN Power Transistor

2SD1778

DESCRIPTION

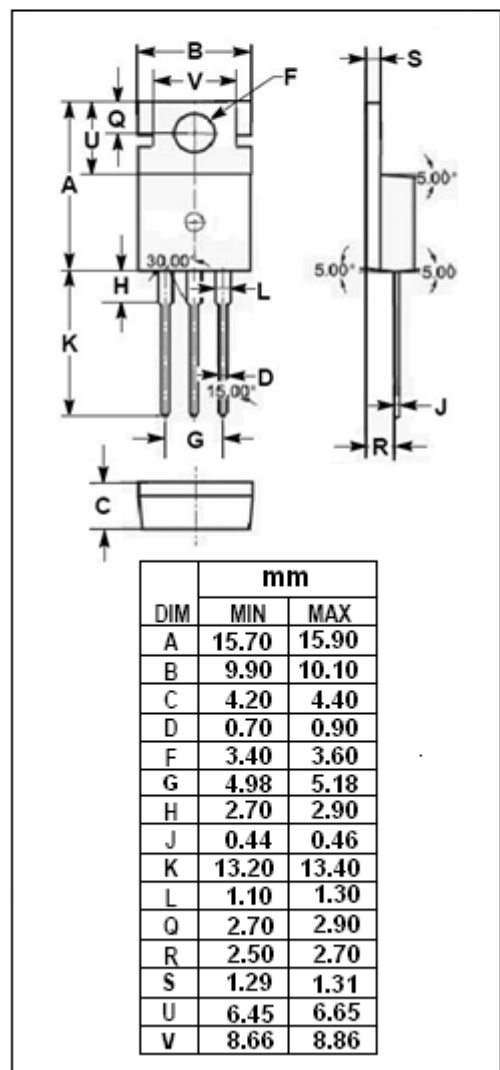
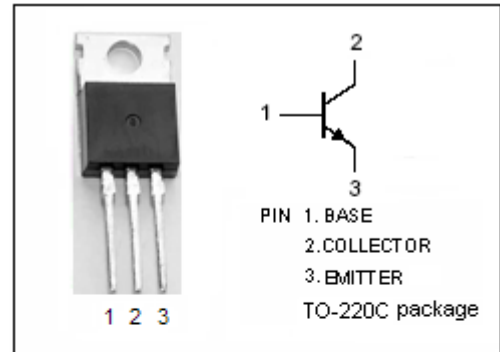
- High Collector Current::  $I_C = 4A$
- Low Collector Saturation Voltage  
:  $V_{CE(sat)} = 1.0V(Max) @ I_C = 3A$
- Wide Area of Safe Operation
- Complement to Type 2SB1334

APPLICATIONS

- Designed for low frequency power amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	80	V
$V_{CEO}$	Collector-Emitter Voltage	60	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	4	A
$I_{CM}$	Collector Current-Peak	6	A
$P_C$	Total Power Dissipation @ $T_C=25^{\circ}C$	40	W
$T_J$	Junction Temperature	150	$^{\circ}C$
$T_{stg}$	Storage Temperature Range	-55~150	$^{\circ}C$



**isc Silicon NPN Power Transistor****2SD1778****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=1\text{mA}; I_B=0$	60			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=50\ \mu\text{A}; I_E=0$	80			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=50\ \mu\text{A}; I_C=0$	5			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=3\text{A}; I_B=0.3\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=3\text{A}; I_B=0.3\text{A}$			1.5	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=60\text{V}; I_E=0$			10	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=4\text{V}; I_C=0$			10	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$I_C=1\text{A}; V_{CE}=5\text{V}$	60		320	
$C_{OB}$	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f=1\text{MHz}$		90		pF
$f_T$	Current-Gain—Bandwidth Product	$I_E=-0.5\text{A}; V_{CE}=5\text{V}$		8		MHz

◆  **$h_{FE}$  Classifications**

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