

**SPTECH Silicon NPN Power Transistor**

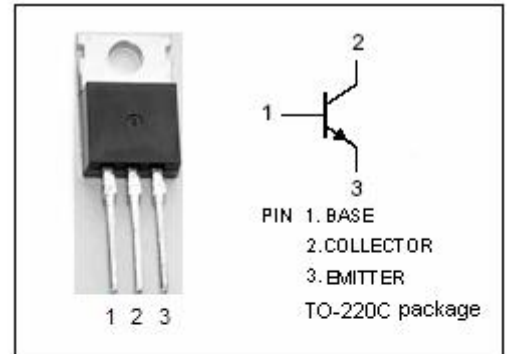
**2SD743**

**DESCRIPTION**

- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 80V(\text{Min})$
- DC Current Gain-  
:  $h_{FE} = 40 \sim 200 @ I_C = 0.5A$
- Complement to Type 2SB703

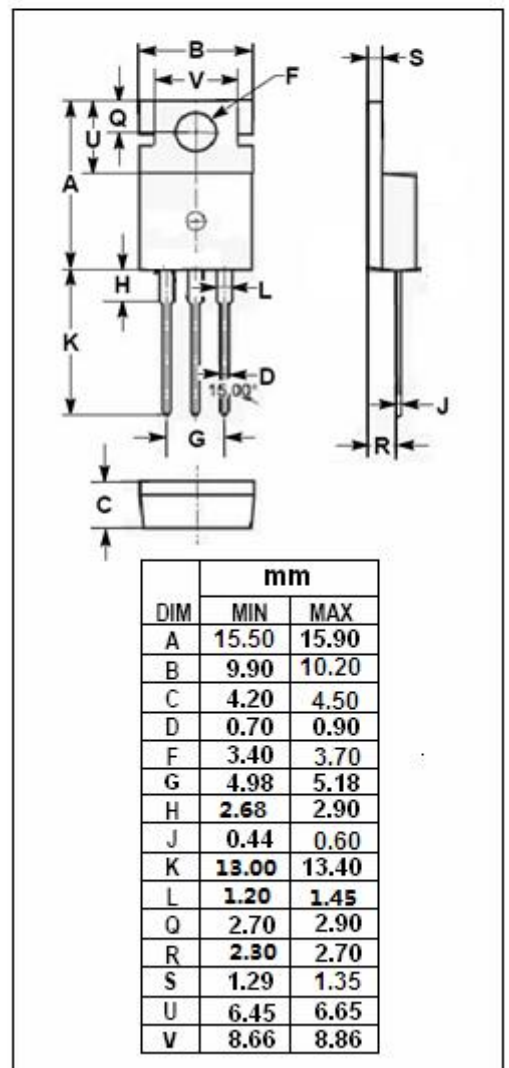
**APPLICATIONS**

- Designed for use in audio frequency power amplifier, low speed switching 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	80	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	4	A
$I_{CM}$	Collector Current-Peak	6	A
$I_B$	Base Current-Continuous	1	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	$^\circ\text{C}$



**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(j-c)}$	Thermal Resistance, Junction to Case	3.125	$^\circ\text{C/W}$

**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	$I_C= 10\text{mA}; I_B= 0$	80			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C= 1\text{mA}; I_E= 0$	80			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E= 1\text{mA}; I_C= 0$	5			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C= 3\text{A}; I_B= 0.3\text{A}$			2.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C= 3\text{A}; I_B= 0.3\text{A}$			2.0	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}= 80\text{V}; I_E= 0$			10	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}= 3\text{V}; I_C= 0$			10	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C= 20\text{mA}; V_{CE}= 5\text{V}$	20			
$h_{FE-2}$	DC Current Gain	$I_C= 0.5\text{A}; V_{CE}= 5\text{V}$	40		200	
$f_T$	Current-Gain—Bandwidth Product	$I_C= 0.1\text{A}; V_{CE}= 5\text{V}; f_{test}= 1.0\text{MHz}$	10			MHz

◆  **$h_{FE-2}$  Classifications**

S	R	Q
40-80	60-120	100-200