

# isc Silicon NPN Power Transistor

## 2SD2583

### DESCRIPTION

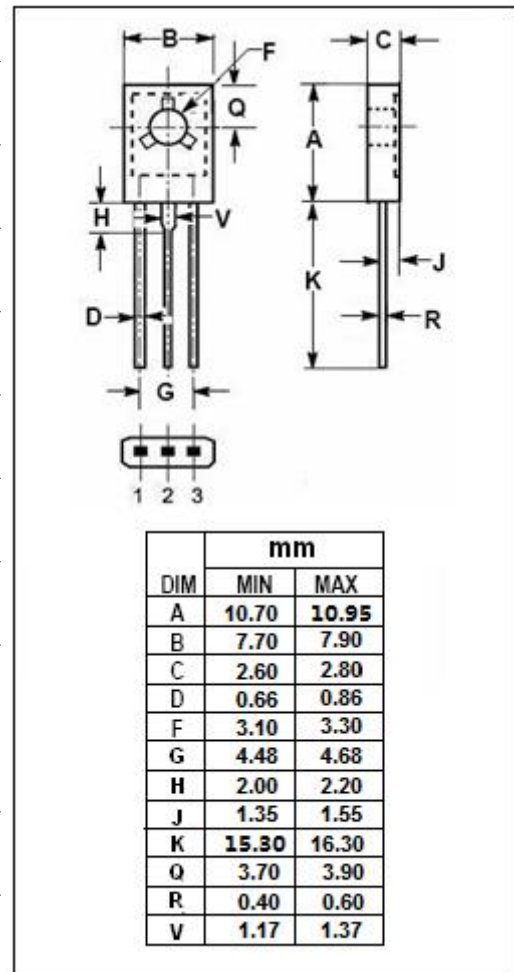
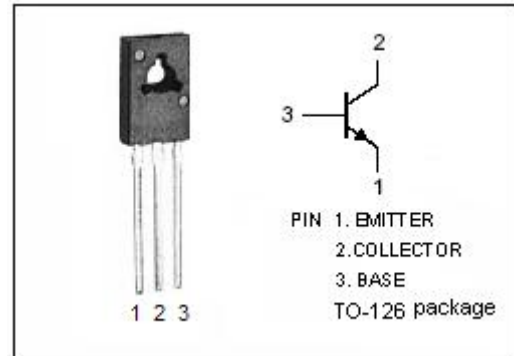
- High Collector Current- $I_C=5A$
- Low Saturation Voltage -  
:  $V_{CE(sat)}=0.15V(Max)@ I_C=1A, I_B=50mA$
- High DC Current Gain-  
:  $h_{FE}=150\sim600@ I_C=1A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

- Designed for audio frequency amplifier and switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	30	V
$V_{CEO}$	Collector-Emitter Voltage	30	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current-Continuous	5.0	A
$I_{CP}$	Collector Current-Pulse	10	A
$I_B$	Base Current-Continuous	2.0	A
$P_C$	Collector Power Dissipation @ $T_a=25^\circ C$	1.0	W
	Collector Power Dissipation @ $T_C=25^\circ C$	10	
$T_J$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ C$



**isc Silicon NPN Power Transistor****2SD2583****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=1\text{A}; I_B=50\text{mA}$			0.15	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=0.1\text{A}$			0.25	V
$V_{CE(sat)-3}$	Collector-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=0.2\text{A}$			0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=0.1\text{A}$			1.5	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=30\text{V}; I_E=0$			0.1	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=6\text{V}; I_C=0$			0.1	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C=1\text{A}; V_{CE}=2\text{V}$	150		600	
$h_{FE-2}$	DC Current Gain	$I_C=4\text{A}; V_{CE}=2\text{V}$	50			
$f_T$	Current-Gain—Bandwidth Product	$I_C=50\text{mA}; V_{CE}=10\text{V}$		120		MHz
$C_{OB}$	Output Capacitance	$I_E=0; V_{CB}=10\text{V}, f_{\text{test}}=1\text{MHz}$		77		pF

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