

isc Silicon NPN Power Transistor

2SD600

DESCRIPTION

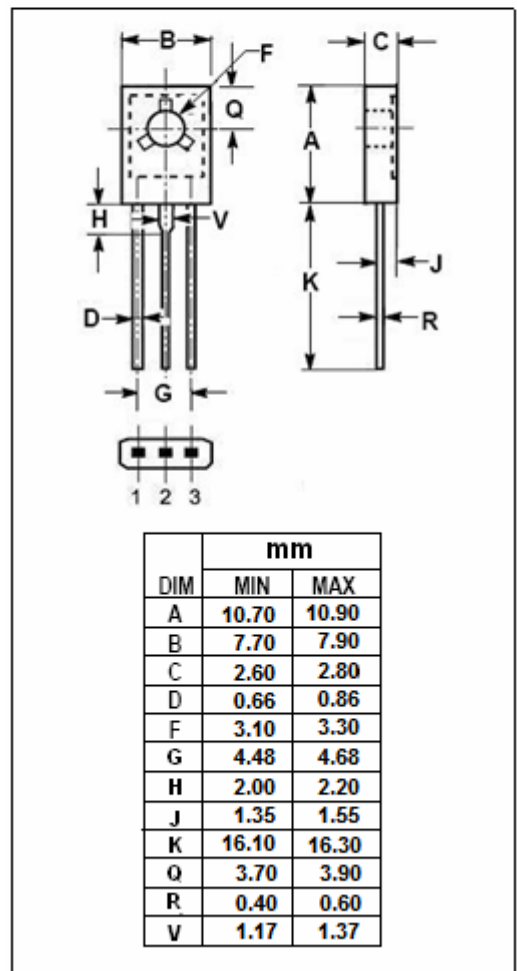
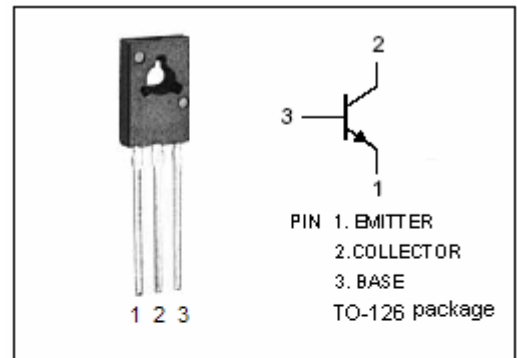
- High Collector Current- $I_C= 1.0A$
- High Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO}= 100V(\text{Min})$
- Good Linearity of h_{FE}
- Low Saturation Voltage
- Complement to Type 2SB631

APPLICATIONS

- Designed for power amplifier 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	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	1	A
I_{CP}	Collector Current-Pulse	2	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	8	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	$^\circ\text{C}$



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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	$I_C=10\mu\text{A}; I_E=0$	100			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=1\text{mA}; R_{BE}=\infty$	100			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	$I_C=500\text{mA}; I_B=50\text{mA}$			0.4	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=500\text{mA}; I_B=50\text{mA}$			1.2	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=50\text{V}; I_E=0$			1	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=4\text{V}; I_C=0$			1	μA
h_{FE-1}	DC Current Gain	$I_C=50\text{mA}; V_{CE}=5\text{V}$	60		320	
h_{FE-2}	DC Current Gain	$I_C=500\text{mA}; V_{CE}=5\text{V}$	20			
f_T	Current-Gain—Bandwidth Product	$I_C=50\text{mA}; V_{CE}=10\text{V}$		130		MHz
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}, f_{\text{test}}=1\text{MHz}$		20		pF

Switching times

t_f	Fall Time	$I_C=500\text{mA}, R_L=24\Omega,$ $I_{B1}=-I_{B2}=50\text{mA}, V_{CE}=12\text{V}$		0.1		μs
t_{off}	Turn-Off Time			0.5		μs
t_{stg}	Storage Time			0.7		μs

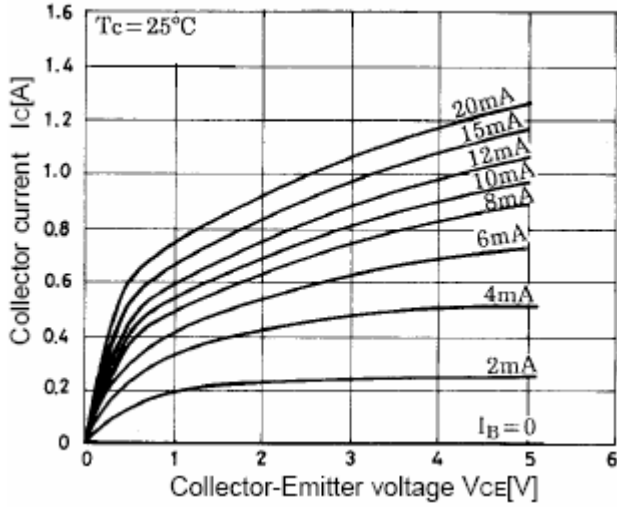
◆ h_{FE-1} Classifications

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

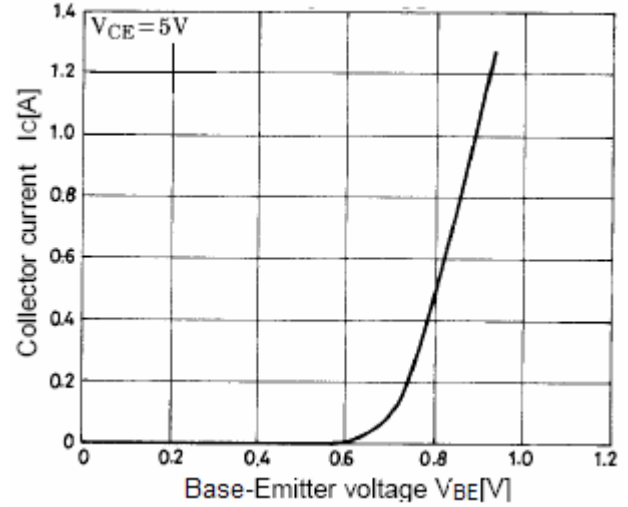
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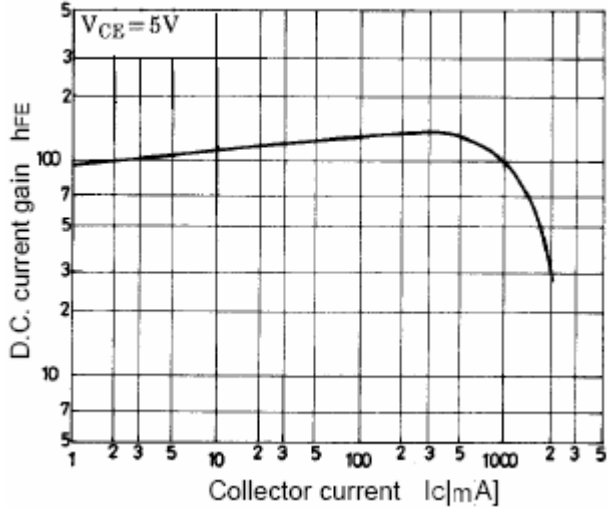
I_C - V_{CE} Characteristics



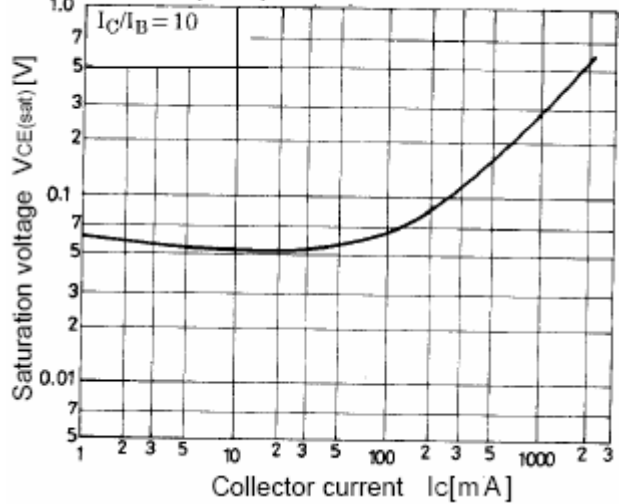
I_C - V_{BE} Characteristics



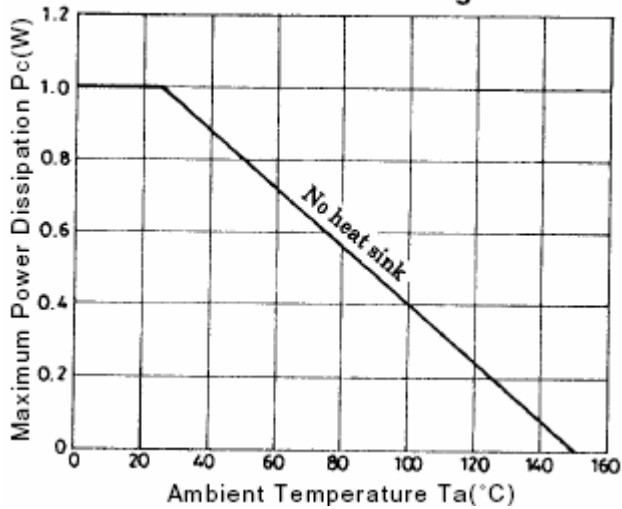
h_{FE} - I_C Characteristics



$V_{CE(sat)}$ - I_C Characteristics



Power Derating



Safe Operating Area

