

Silicon NPN Darlington Power Transistor

2SD560

DESCRIPTION

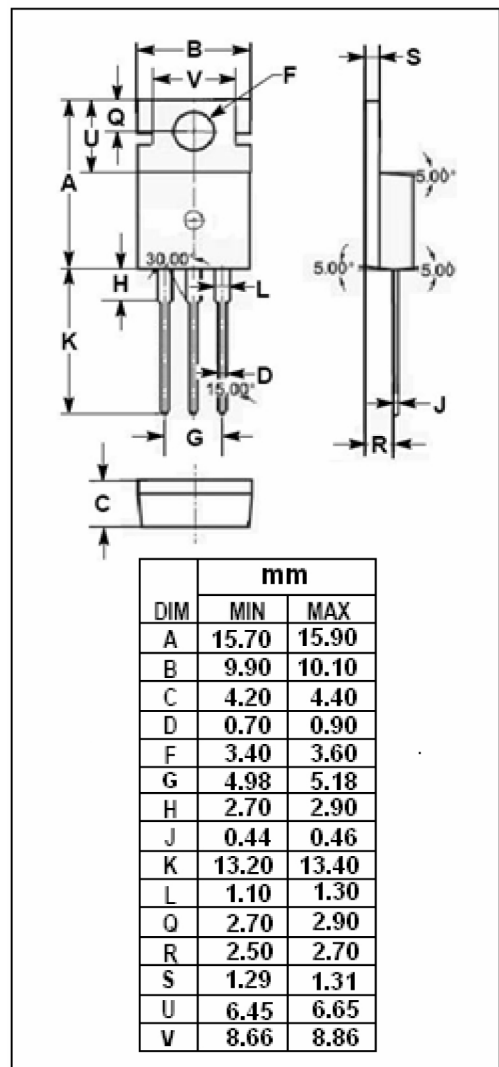
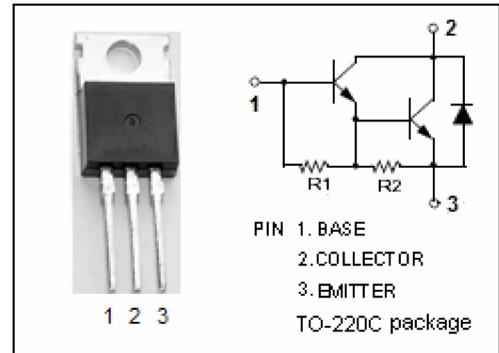
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 100V(\text{Min})$
- High DC Current Gain
: $h_{FE} = 2000(\text{Min}) @ I_C = 3.0A$
- Low Saturation Voltage
- Complement to Type 2SB601

APPLICATIONS

- Designed for low frequency power amplifiers and low speed switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	150	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	5	A
I_{CP}	Collector Current-Peak	8	A
I_B	Base Current-Continuous	0.5	A
P_C	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	1.5	W
	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	30	
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
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=3A; L=1mH, I_B=3mA$	100			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=3A; I_B=3mA$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=3A; I_B=3mA$			2.0	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=100V; I_E=0$			1	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5V; I_C=0$			3	mA
h_{FE-1}	DC Current Gain	$I_C=3A; V_{CE}=2V$	2000		15000	
h_{FE-2}	DC Current Gain	$I_C=5A; V_{CE}=2V$	500			

Switching times

t_{on}	Turn-on Time	$I_C=3A, I_{B1}=-I_{B2}=3mA$ $R_L=16.7\Omega; V_{CC}\approx 50V$		0.5		μs
t_{stg}	Storage Time			1.0		μs
t_f	Fall Time			1.0		μs

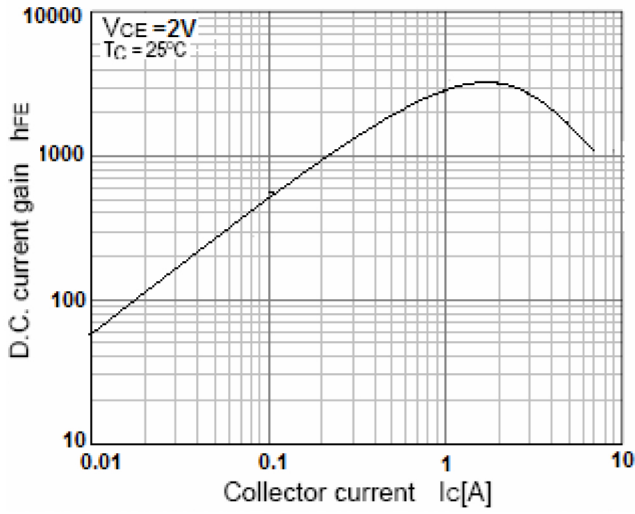
◆ h_{FE-1} Classifications

R	O	Y
2000-5000	3000-7000	5000-15000

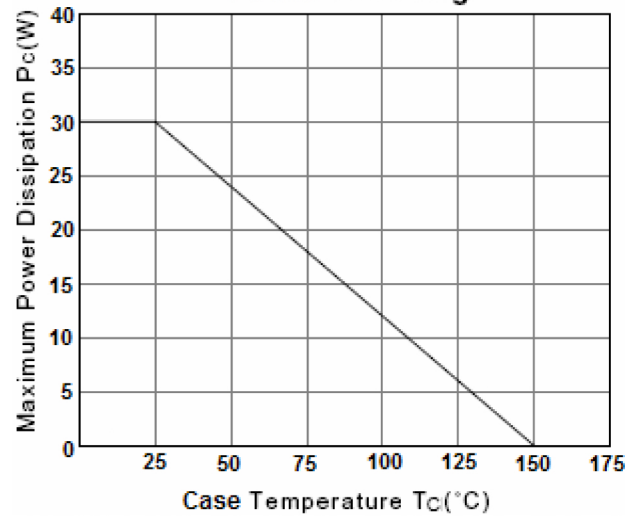
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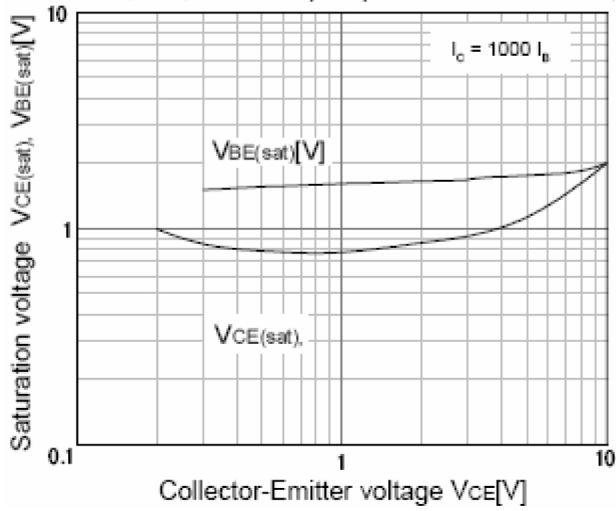
h_{FE} - I_C Characteristics



Power Derating



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



Safe Operating Area

