

INCHANGE Semiconductor

isc Product Specification

isc Silicon NPN Darlington Power Transistor

2SD560

DESCRIPTION

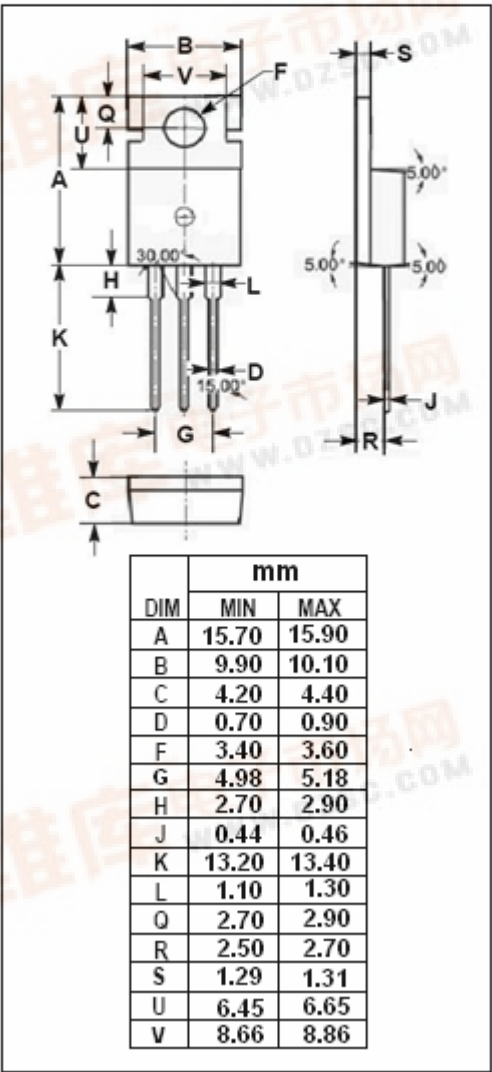
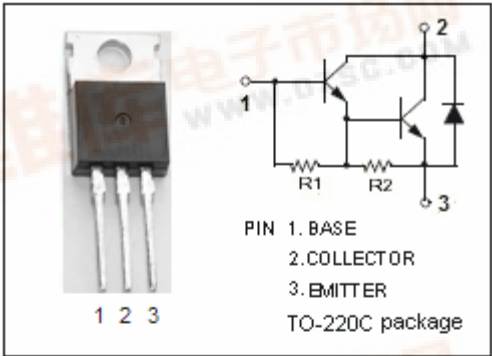
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 100V(\text{Min})$
- High DC Current Gain
: $h_{FE} = 2000(\text{Min}) @ I_C = 3.0A$
- Low Saturation Voltage
- Complement to Type 2SB601

APPLICATIONS

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

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

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 @ $T_a=25^{\circ}C$	1.5	W
	Collector Power Dissipation @ $T_c=25^{\circ}C$	30	
T_J	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature Range	-55~150	$^{\circ}C$



isc Silicon NPN Darlington Power Transistor**2SD560****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	$I_C=3\text{A}$; $L=1\text{mH}$, $I_B=3\text{mA}$	100			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=3\text{A}$; $I_B=3\text{mA}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=3\text{A}$; $I_B=3\text{mA}$			2.0	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=100\text{V}$; $I_E=0$			1	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}$; $I_C=0$			3	mA
h_{FE-1}	DC Current Gain	$I_C=3\text{A}$; $V_{CE}=2\text{V}$	2000		15000	
h_{FE-2}	DC Current Gain	$I_C=5\text{A}$; $V_{CE}=2\text{V}$	500			

Switching times

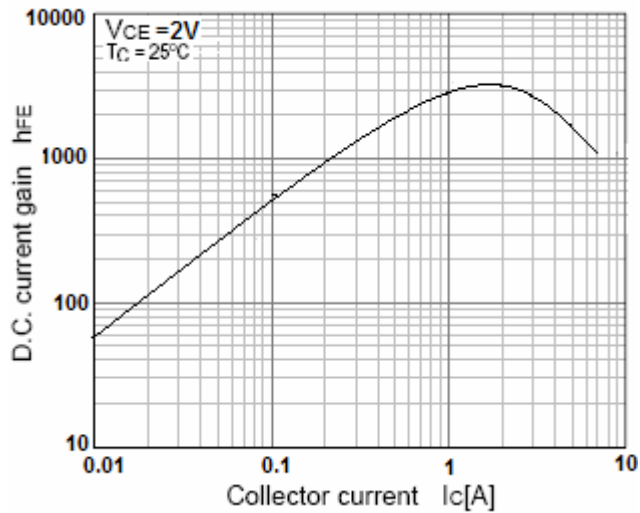
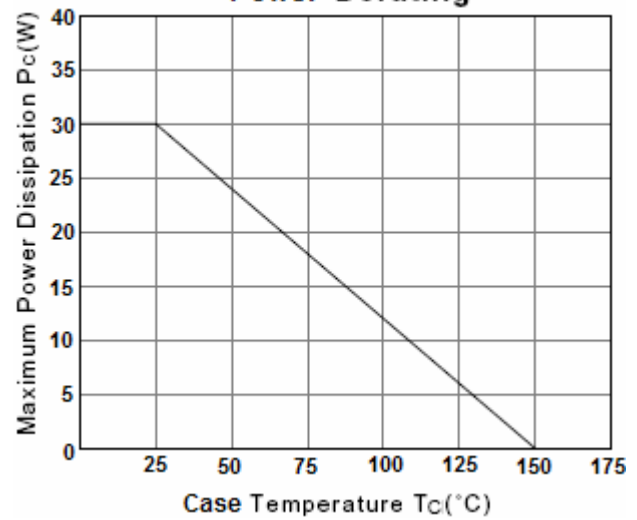
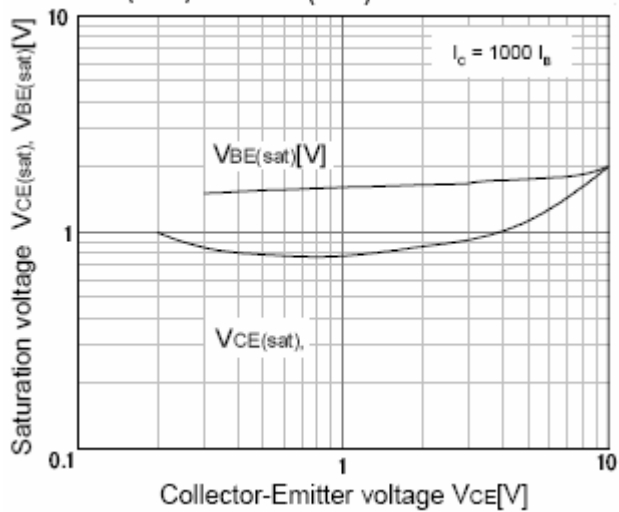
t_{on}	Turn-on Time	$I_C=3\text{A}$, $I_{B1}=-I_{B2}=3\text{mA}$ $R_L=16.7\Omega$; $V_{CC}\approx 50\text{V}$		0.5		μs
t_{stg}	Storage Time			1.0		μs
t_f	Fall Time			1.0		μs

◆ **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**