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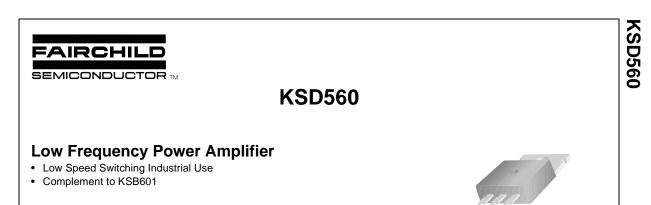


## **ON Semiconductor**®

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1.Base 2.Collector 3.Emitter

TO-220

## NPN Epitaxial Silicon Darlington Transistor

Absolute Maximum Ratings T<sub>C</sub>=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V <sub>CBO</sub>	Collector-Base Voltage	150	V
V <sub>CEO</sub>	Collector-Emitter Voltage	100	V
V <sub>EBO</sub>	Emitter-Base Voltage	7	V
I <sub>C</sub>	Collector Current (DC)	5	А
I <sub>CP</sub>	*Collector Current (Pulse)	8	А
I <sub>B</sub>	Base Current	0.5	А
P <sub>C</sub>	Collector Dissipation (T <sub>a</sub> =25°C)	1.5	W
P <sub>C</sub> P <sub>C</sub>	Collector Dissipation (T <sub>C</sub> =25°C)	30	W
TJ	Junction Temperature	150	°C
T <sub>STG</sub>	Storage Temperature	- 55 ~ 150	°C

\* PW≤10ms, Duty Cycle≤50%

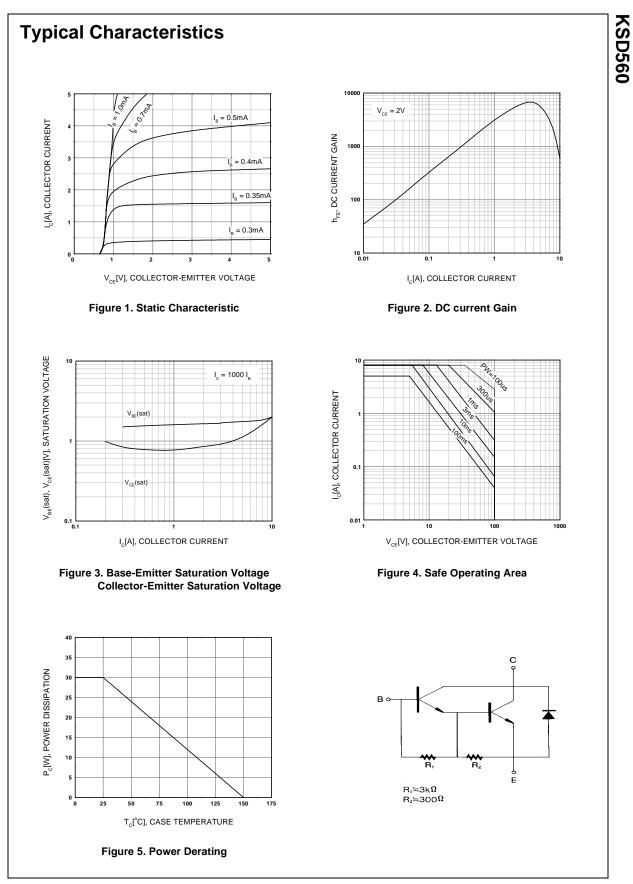
### Electrical Characteristics T<sub>C</sub>=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Units
I <sub>CBO</sub>	Collector Cut-off Current	$V_{CB} = 100V, I_E = 0$			1	μΑ
h <sub>FE1</sub>	*DC Current Gain	$V_{CE} = 2V, I_{C} = 3A$	2K	6K	15K	
h <sub>FE2</sub>		$V_{CE} = 2V, I_{C} = 5A$	500			
V <sub>CE</sub> (sat)	*Collector-Emitter Saturation Voltage	$I_{C} = 3A, I_{B} = 3mA$		0.9	1.5	V
V <sub>BE</sub> (sat)	*Base-Emitter SaturationVoltage	I <sub>C</sub> = 3A, I <sub>B</sub> = 3mA		1.6	2	V
t <sub>ON</sub>	Turn ON Time	$V_{CC} = 50V, I_{C} = 3A$		1		μs
t <sub>STG</sub>	Storage Time	$I_{B1} = -I_{B2} = 3mA$		3.5		μs
f <sub>T</sub>	Fall Time	$R_L = 16.7\Omega$		1.2		μs

\* Pulse Test: PW≤350µs, Duty Cycle≤2% Pulsed

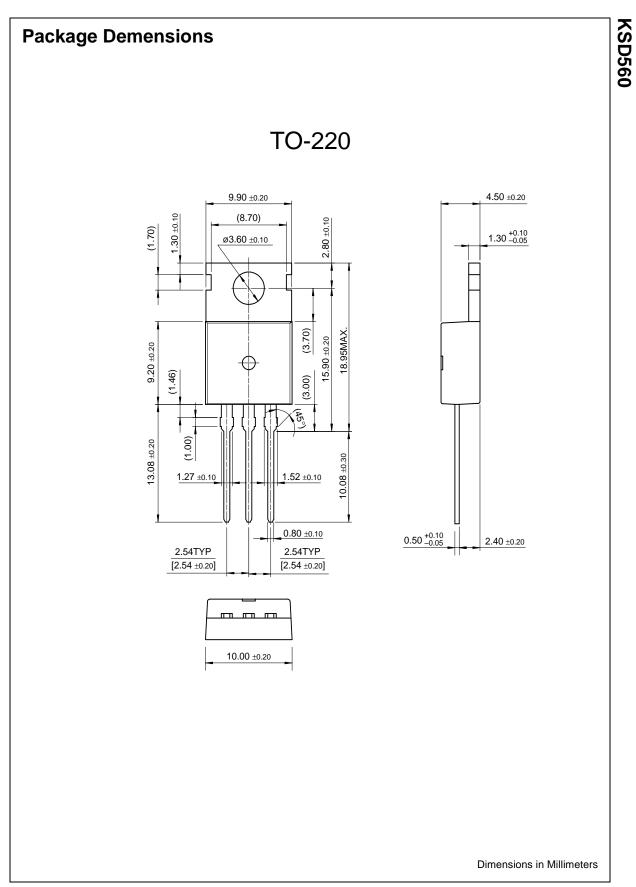
## h<sub>FE</sub> Classification

Classification	R	0	Y
h <sub>FE1</sub>	2000 ~ 5000	3000 ~ 7000	5000 ~ 15000



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