

**isc Silicon NPN Darlington Power Transistor**
**2SD560**
**DESCRIPTION**

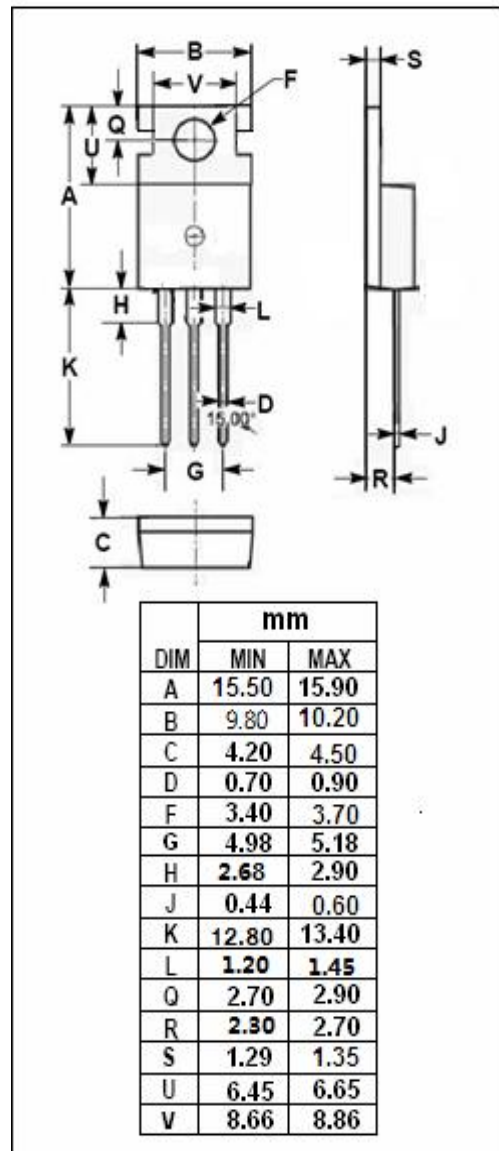
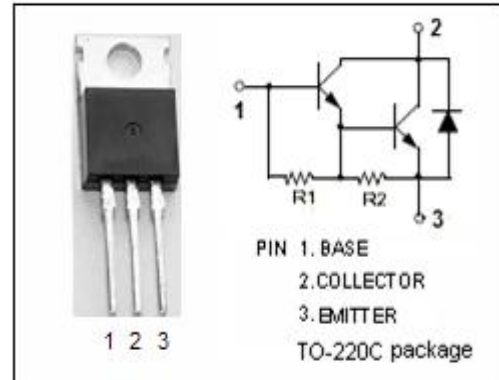
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 100V(\text{Min})$
- High DC Current Gain  
:  $h_{FE} = 2000(\text{Min}) @ I_C = 3.0A$
- Low Saturation Voltage
- Complement to Type 2SB601
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**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	$^\circ\text{C}$



**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	$I_C=10\text{mA}; I_B=0$	100			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=3\text{A}; I_B=3\text{mA}$		1.2	1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=3\text{A}; I_B=3\text{mA}$		1.6	2.0	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=100\text{V}; I_E=0$			1	$\mu\text{A}$
$I_{EBO}$	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	4000	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		$\mu\text{s}$
$t_{stg}$	Storage Time			1.0		$\mu\text{s}$
$t_f$	Fall Time			1.0		$\mu\text{s}$

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