

isc Silicon NPN Darlington Power Transistor**2SD1601****ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=25\text{mA}; R_{BE}=\infty$	60			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=50\text{mA}; I_C=0$	7			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=4\text{mA}$			1.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=40\text{mA}$			3.0	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=4\text{mA}$			2.0	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=40\text{mA}$			3.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=60\text{V}; I_E=0$			100	μA
I_{CEO}	Collector Cutoff Current	$V_{CE}=50\text{V}; R_{BE}=\infty$			10	μA
h_{FE}	DC Current Gain	$I_C=2\text{A}; V_{CE}=3\text{V}$	1000		20000	
V_{ECF}	C-E Diode Forward Voltage	$I_F=4\text{A}$			3.0	V

Switching times

t_{on}	Turn-on Time	$I_C=2\text{A}, I_{B1}=-I_{B2}=4\text{mA}$		1.0		μs
t_{stg}	Storage Time			6.0		μs
t_f	Fall Time			1.0		μs