

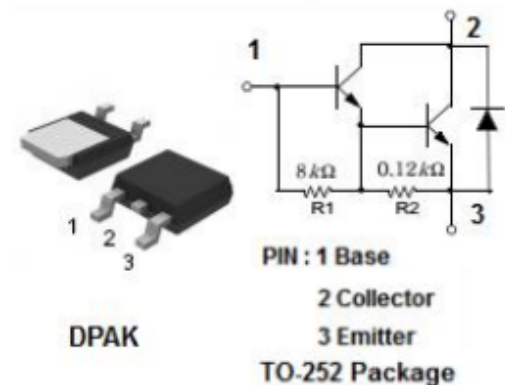
Silicon NPN Darlington Power Transistor

DESCRIPTION

- Low Collector-Emitter saturation voltage
- Lead formed for surface mount applications
- High DC current gain
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for general purpose amplifier and low speed switching applications.



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	8	A
P_C	Total Power Dissipation @ $T_a=25^\circ\text{C}$	1.75	W
P_C	Collector Power Dissipation $T_C=25^\circ\text{C}$	20	W
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	6. 25	$^\circ\text{C/W}$
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$

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	$I_C=30\text{mA}; I_B=0$	100			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=16\text{mA}$			2.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=8\text{A}; I_B=80\text{mA}$			4.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=8\text{A}; I_B=80\text{mA}$			4.5	V
$V_{BE(ON)}$	Base-Emitter voltage	$I_C=4\text{A}; V_{CE}=4\text{V}$			2.8	V
I_{CEO}	Collector Cutoff Current	$V_{CE}=50\text{V}; I_E=0$			10	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			2	mA
h_{FE1}	DC Current Gain	$I_C=4\text{A}; V_{CE}=4\text{V}$	1000		12000	
h_{FE2}	DC Current Gain	$I_C=8\text{A}; V_{CE}=4\text{V}$	100			
f_T	Current-Gain—Bandwidth Product	$I_C=3\text{A}; V_{CE}=4\text{V}$	4			MHz
C_{OB}	Output Capacitance	$I_E=0;$ $V_{CB}=10\text{V}; f=1.0\text{MHz}$		200		pF

Package Dimensions

