

isc Silicon PNP Power Transistor

STD2805

DESCRIPTION

- Low Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = -0.6V(\text{Max})(I_C = -5A; I_B = -0.25A)$
- DC Current Gain $-h_{FE} = 85(\text{Min}) @ I_C = -5A$
- Fast -Switching speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- CCFL drivers
- Voltage regulators
- Relay drivers
- High efficiency low voltage switching applications

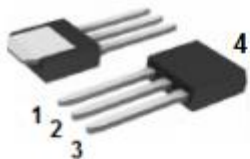
ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CBO}	Collector-Base Voltage	-60	V
V _{CEO}	Collector-Emitter Voltage	-60	V
V _{EBO}	Emitter-Base Voltage	-6	V
I _C	Collector Current-Continuous	-5	A
I _{CM}	Collector Current-Peak	-10	A
I _B	Base Current	-2	A
P _C	Total Power Dissipation @ T _C =25°C	15	W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature Range	-65~150	°C

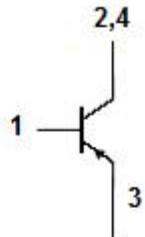
THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance, Junction to Case	8.33	°C/W

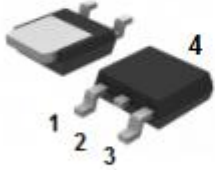




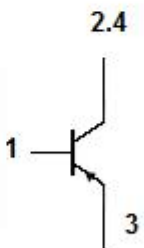
IPAK



PIN : 1 Base
2 Collector
3 Emitter
TO-251 Package



DPAK



PIN : 1 Base
2 Collector
3 Emitter
TO-252 Package

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ELECTRICAL CHARACTERISTICS

 $T_c=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=-0.1\text{mA}, I_C=0$	-6			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=-1\text{mA}, I_B=0$	-60			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=-0.1\text{mA}, I_E=0$	-60			V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C=-100\text{mA}; I_B=-5\text{mA}$			-50	mV
		$I_C=-2\text{A}; I_B=-50\text{mA}$			-0.3	V
		$I_C=-3\text{A}; I_B=-0.15\text{A}$			-0.4	V
		$I_C=-5\text{A}; I_B=-0.2\text{A}$			-0.6	V
$V_{BE(sat)}^*$	Base-Emitter Saturation Voltage	$I_C=-2\text{A}; I_B=-50\text{mA}$			-1.2	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=-60\text{V}; I_E=0$			-100	nA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=-5\text{V}; I_C=0$			-100	nA
h_{FE}^*	DC Current Gain	$I_C=-100\text{mA}; V_{CE}=-2\text{V}$	200		400	
		$I_C=-5\text{A}; V_{CE}=-2\text{V}$	85			
		$I_C=-10\text{A}; V_{CE}=-2\text{V}$	20			
f_T	Current-Gain—Bandwidth Product	$I_C=-50\text{mA}; V_{CE}=-10\text{V}$		150		MHZ
C_{OB}	Output Capacitance	$V_{CB}=-10\text{V}; f=1.0\text{MHz}$		60		pF

* Pulse Test: $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 1.5\%$

Switching Times; Resistive Load

t_{on}	Tur-on Time			80		ns
t_s	Storage Time	$I_C=-1\text{A}; V_{CC}=30\text{V}; I_{B1}=I_{B2}=-0.1\text{A}$		600		ns
t_f	Fall Time			70		ns

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Outline Drawing

