

# 2N6045

## GENERAL DESCRIPTION

- Halogen free available upon request by adding suffix "-HF"
- Silicon NPN medium power Darlington transistors in a plastic envelope, primarily for use in low-speed switching and general purpose.
- Lead Free Finish/RoHS Compliant (Note1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Mounting Torque: 5 in-lbs Maximum

## QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITION	MIN	MAX	UNIT
V <sub>CESM</sub>	Collector-emitter voltage peak value	V <sub>BE</sub> =0V	100		V
V <sub>CEO</sub>	Collector-emitter voltage (open base)		100		V
I <sub>C</sub>	Collector current (DC)		8.0		A
I <sub>CM</sub>	Collector current peak value		16		A
P <sub>TOT</sub>	Total power dissipation	T <sub>mb</sub> ≤25°C	75		W
V <sub>CESat</sub>	Collector -emitter saturation voltage	I <sub>C</sub> =8A; I <sub>B</sub> =0.08A		4.0	V
I <sub>CSat</sub>	Collector saturation current				A
V <sub>BE</sub>	Emitter forward voltage	I <sub>E</sub> =8A			V
t <sub>f</sub>	Fall time	I <sub>C</sub> =3.0A; I <sub>B1</sub> =-I <sub>B2</sub> =0.3A; V <sub>CC</sub> =30V			μs

## LIMITING VALUES

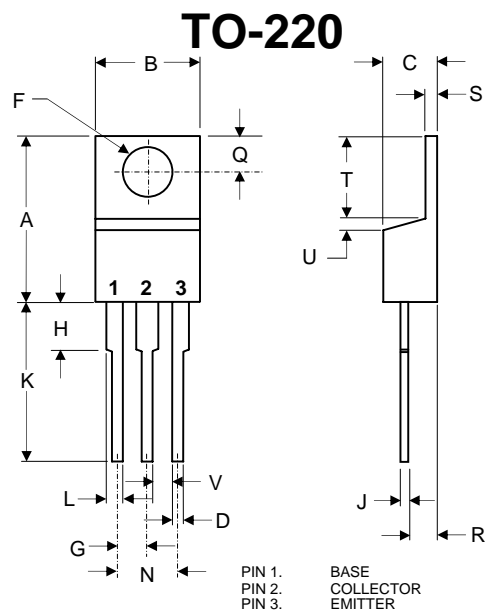
SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>CESM</sub>	Collector-emitter voltage peak value	V <sub>BE</sub> =0V		100	V
V <sub>CEO</sub>	Collector-emitter voltage (open base)			100	V
V <sub>EBO</sub>	Emitter-base voltage (open collector)			5	V
I <sub>C</sub>	Collector current (DC)			8	A
I <sub>B</sub>	Base current(DC)			0.12	A
I <sub>BM</sub>	Base current peak value				A
P <sub>TOT</sub>	Total power dissipation	T <sub>mb</sub> ≤25°C		75	W
T <sub>stg</sub>	Storage temperature		-60	150	°C
T <sub>j</sub>	Junction temperature		-60	150	°C

## ELECTRICAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITION	MIN	MAX	UNIT
I <sub>CB0</sub>	Collector-base cut-off current	V <sub>CB</sub> =100V		20	μA
I <sub>EB0</sub>	Emitter-base cut-off current	V <sub>EB</sub> =5V		2.0	mA
V <sub>(BR)CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =100mA	100		V
V <sub>CEsat1</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =3.0A, I <sub>B</sub> =12mA		2.0	V
V <sub>CEsat2</sub>	Collector-emitter saturation voltage	I <sub>C</sub> =8A, I <sub>B</sub> =80mA		4.0	V
h <sub>FE1</sub>	DC current gain	I <sub>C</sub> =3A, V <sub>CE</sub> =4V	1000	20000	
h <sub>FE2</sub>	DC current gain	I <sub>C</sub> =8A, V <sub>CE</sub> =4V	100		
f <sub>T</sub>	Transition frequency at f=1MHz	I <sub>C</sub> =0.5A, V <sub>CE</sub> =4V			MHz
C <sub>C</sub>	Collector capacitance at f=1MHz	V <sub>CB</sub> =10V			pF
t <sub>ON</sub>	On times	I <sub>C</sub> =3A, I <sub>B</sub> =0.3A, V <sub>CC</sub> =30V			μs
t <sub>S</sub>	Turn-off storage time	I <sub>C</sub> =3A, I <sub>B</sub> =0.3A, V <sub>CC</sub> =30V			μs
t <sub>F</sub>	Fall time	I <sub>C</sub> =3A, I <sub>B</sub> =0.3A, V <sub>CC</sub> =30V			μs

Notes: 1. High Temperature Solder Exemption Applied, see EU Directive Annex Notes 7.

## NPN Silicon Power Darlington Transistor



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.560	.625	14.22	15.88	
B	.380	.420	9.65	10.67	
C	.140	.190	3.56	4.82	
D	.020	.045	0.51	1.14	
F	.139	.161	3.53	4.09	∅
G	.190	.110	2.29	2.79	
H	---	.250	---	6.35	
J	.012	.025	0.30	0.64	
K	.500	.580	12.70	14.73	
L	.045	.060	1.14	1.52	
N	.190	.210	4.83	5.33	
Q	.100	.135	2.54	3.43	
R	.080	.115	2.04	2.92	
S	.045	.055	1.14	1.39	
T	.230	.270	5.84	6.86	
U	----	.050	----	1.27	
V	.045	----	1.15	----	



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### Ordering Information :

Device	Packing
Part Number-BP	Bulk; 1Kpcs/Box

Note : Adding "-HF" suffix for halogen free, eg. Part Number-BP-HF

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