

SPTECH Silicon NPN Darlington Power Transistor

2N6043

DESCRIPTION

- High DC Current Gain-
: $h_{FE} = 1000(\text{Min}) @ I_C = 4A$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(\text{SUS})} = 60V(\text{Min})$
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(\text{sat})} = 2.0V(\text{Max}) @ I_C = 4A$
- Complement to Type 2N6040

APPLICATIONS

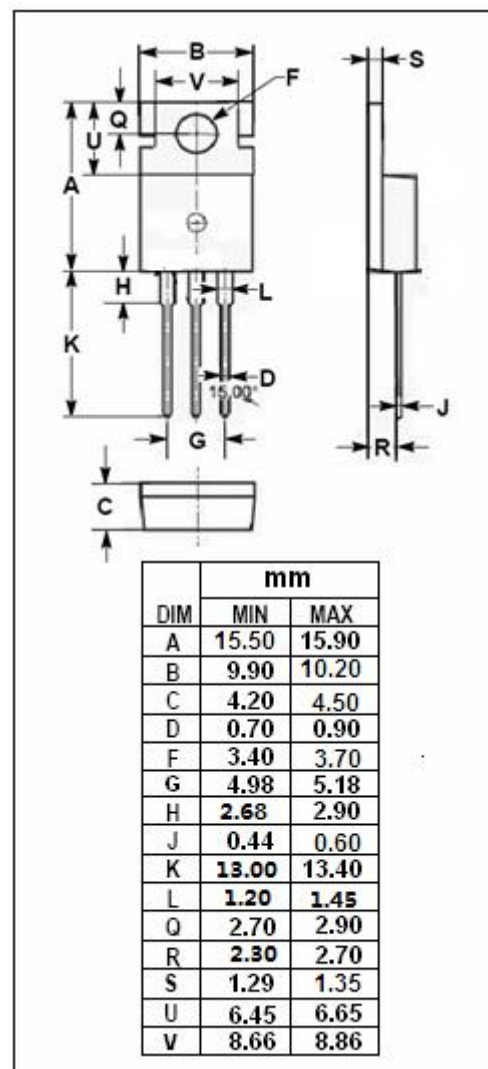
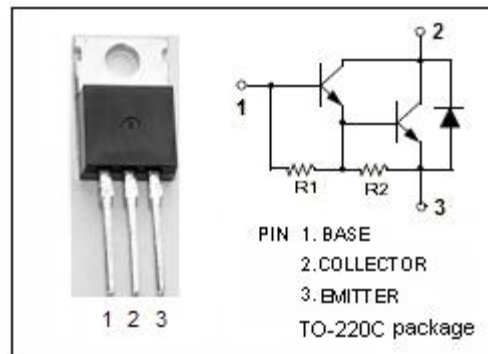
- Designed for general purpose amplifier and low speed switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	8	A
I_{CM}	Collector Current-Peak	16	A
I_B	Base Current-DC	120	mA
P_C	Collector Power Dissipation $T_C = 25^\circ\text{C}$	75	W
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.67	$^\circ\text{C/W}$



SPTECH Silicon NPN Darlington Power Transistor**2N6043****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 30mA, I _B = 0	60			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 4A ,I _B = 16mA			2.0	V
V _{CE(sat)-2}	Collector-Emitter Saturation voltage	I _C = 8A ,I _B = 80mA			4.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 8A ,I _B = 80mA			4.5	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = 4A ; V _{CE} = 4V			2.8	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 60V, I _E = 0			0.5	mA
I _{CEO}	Collector Cutoff Current	V _{CE} = 30V, I _B = 0			0.5	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			2.0	mA
h _{FE-1}	DC Current Gain	I _C = 4A; V _{CE} = 4V	1000		20000	
h _{FE-2}	DC Current Gain	I _C = 8A; V _{CE} = 4V	100			
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V,f= 0.1MHz			300	pF