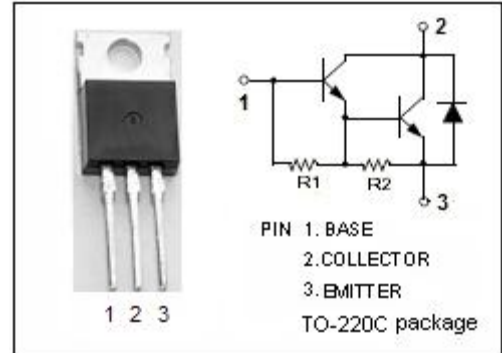


# isc Silicon NPN Darlington Power Transistor

## 2N6045G

### DESCRIPTION

- High DC Current Gain-  
:  $h_{FE} = 1000(\text{Min})@ I_C = 3A$
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(\text{SUS})} = 100V(\text{Min})$
- Low Collector-Emitter Saturation Voltage-  
:  $V_{CE(\text{sat})} = 2.0V(\text{Max})@ I_C = 3A$
- Complement to Type 2N6042
- G: Pb-Free package
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

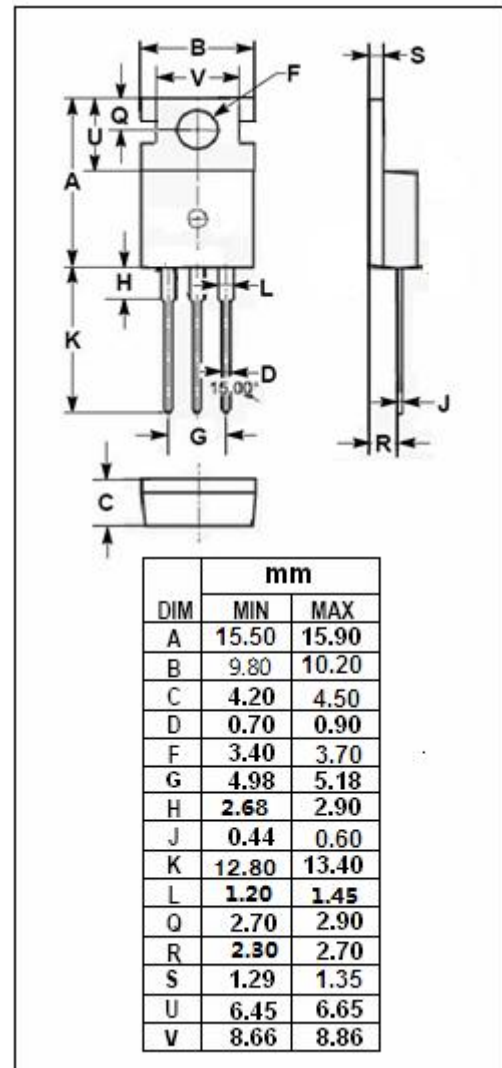


### APPLICATIONS

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

### ABSOLUTE MAXIMUM RATINGS (Ta=25°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
$I_{CM}$	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	°C
$T_{stg}$	Storage Temperature Range	-65~150	°C



### THERMAL CHARACTERISTICS

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

**isc Silicon NPN Darlington Power Transistor**
**2N6045G**
**ELECTRICAL CHARACTERISTICS**
 **$T_c=25^\circ\text{C}$  unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=30\text{mA}, I_B=0$	100			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=3\text{A}, I_B=12\text{mA}$			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 On Voltage	$I_C=4\text{A}; V_{CE}=4\text{V}$			2.8	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=100\text{V}, I_E=0$			0.5	mA
$I_{CEO}$	Collector Cutoff Current	$V_{CE}=50\text{V}, I_B=0$			0.5	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			2.0	mA
$h_{FE-1}$	DC Current Gain	$I_C=3\text{A}; V_{CE}=4\text{V}$	1000		20000	
$h_{FE-2}$	DC Current Gain	$I_C=8\text{A}; V_{CE}=4\text{V}$	100			
$C_{OB}$	Output Capacitance	$I_E=0; V_{CB}=10\text{V}, f=0.1\text{MHz}$			300	pF

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