

isc Silicon NPN Darlington Power Transistor

2SD1409A

**DESCRIPTION**

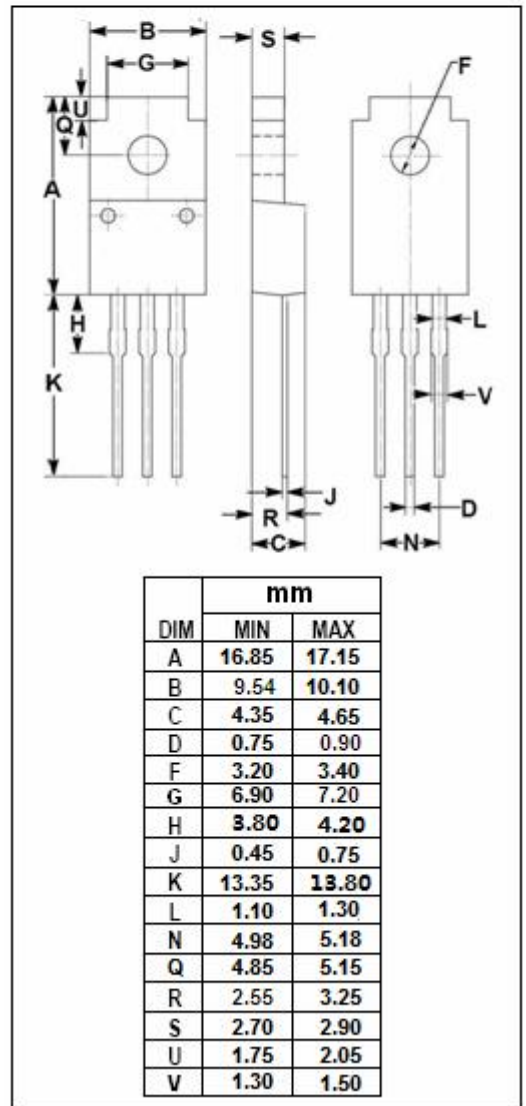
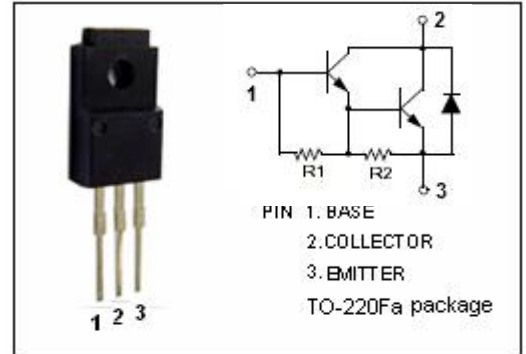
- High collector-emitter breakdown voltage-  
:  $V_{(BR)CEO} = 400V(\text{Min})$
- High DC current Gain  
:  $h_{FE} = 600(\text{Min}) @ I_C = 2A, V_{CE} = 2V$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Igniter applications
- High voltage switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	600	V
$V_{CEO}$	Collector-Emitter Voltage	400	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	6	A
$I_B$	Base Current-Continuous	1	A
$P_C$	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	25	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



**isc Silicon NPN Darlington Power Transistor****2SD1409A****ELECTRICAL CHARACTERISTICS****T<sub>c</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 10mA ; I <sub>B</sub> = 0	400			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 4A; I <sub>B</sub> = 40mA			2.0	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 4A; I <sub>B</sub> = 40mA			2.5	V
V <sub>ECF</sub>	C-E Diode Forward Voltage	I <sub>F</sub> = 4A			3.0	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 600V; I <sub>E</sub> = 0			0.5	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			3.0	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 2A ; V <sub>CE</sub> = 2V	600			
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 4A ; V <sub>CE</sub> = 2V	100			