

**isc Silicon NPN Power Transistor**
**2SD1142**
**DESCRIPTION**

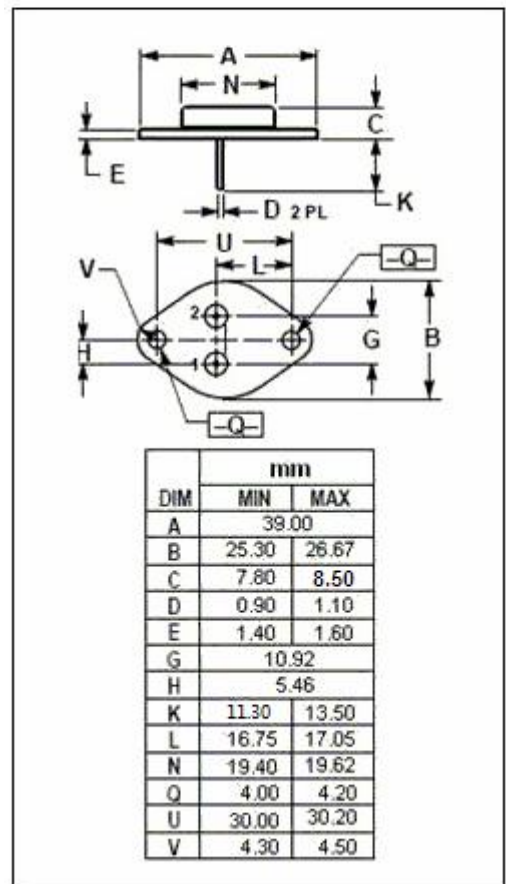
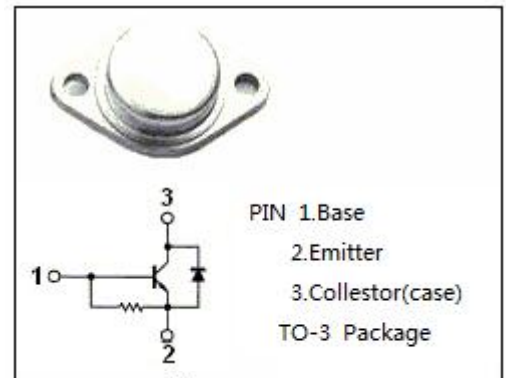
- High Breakdown Voltage-  
:  $V_{CBO} = 1500V$  (Min)
- Collector-Emitter Saturation Voltage-  
:  $V_{CE(sat)} = 4.0V$  (Max.) @  $I_C = 2.5A$
- Built-in Damper Diode
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for horizontal deflection output applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	1500	V
$V_{CEO}$	Collector-Emitter Voltage	600	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current- Continuous	3.5	A
$I_{CP}$	Collector Current- Peak	6	A
$P_C$	Collector Power Dissipation @ $T_c = 25^\circ C$	50	W
$T_J$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ C$



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**ELECTRICAL CHARACTERISTICS**

 T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 50mA; I <sub>B</sub> = 0; L= 35mH	600			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 200mA; I <sub>C</sub> = 0	6			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 2.5A; I <sub>B</sub> = 0.6A			4.0	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 2.5A; I <sub>B</sub> = 0.6A			1.5	V
I <sub>CES</sub>	Collector Cutoff Current	V <sub>CB</sub> = 1500V; V <sub>EB</sub> = 0			1.0	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 4V; I <sub>C</sub> = 0	44		133	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 0.5A; V <sub>CE</sub> = 10V	12			
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 2A; V <sub>CE</sub> = 10V	5		18	
<b>Switching Times</b>						
t <sub>stg</sub>	Storage Time	I <sub>C</sub> = 2.5A, I <sub>B1</sub> = I <sub>B2</sub> = 0.6A			10	μ s
t <sub>f</sub>	Fall Time				1.0	μ s

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