

**isc Silicon NPN Power Transistor**

**2SD1016**

**DESCRIPTION**

- High Collector-Base Voltage-  
:  $V_{CBO} = 1500V(\text{Min})$
- High Current Capability
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

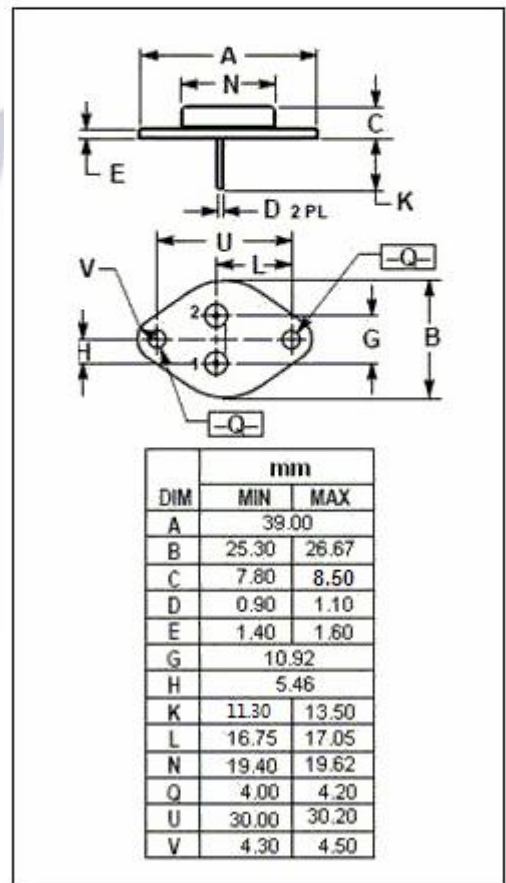
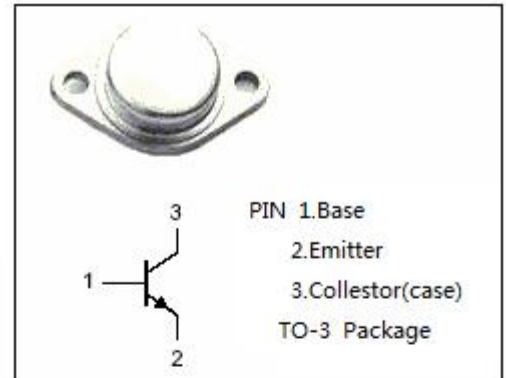
- Designed for use in large screen color deflection circuits .

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	1500	V
$V_{CEO}$	Collector-Emitter Voltage	800	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	7	A
$I_{CM}$	Collector Current-Peak	10	A
$P_C$	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	50	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-65~150	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.64	$^\circ\text{C/W}$



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## 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	$I_C=10\text{mA}; I_B=0$	800			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=4.5\text{A}; I_B=2.0\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=4.5\text{A}; I_B=2.0\text{A}$			1.3	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=1500\text{V}; I_E=0$ $V_{CB}=1500\text{V}; I_E=0; T_C=125^\circ\text{C}$			1.0 2.0	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5.0\text{V}; I_C=0$			0.1	mA
$h_{FE1}$	DC Current Gain	$I_C=0.1\text{A}; V_{CE}=5\text{V}$	6		30	
$h_{FE2}$	DC Current Gain	$I_C=4\text{A}; V_{CE}=5\text{V}$		7		
$C_{OB}$	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=0.1\text{MHz}$	125			pF
$f_T$	Current-Gain—Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=10\text{V}; f_{test}=1.0\text{MHz}$		7		MHz

Pulsed: Pulse duration  $\leq 300\ \mu\text{s}$ , duty cycle  $\leq 1.5\%$