

# isc Silicon NPN Power Transistor

## 2SD291

### DESCRIPTION

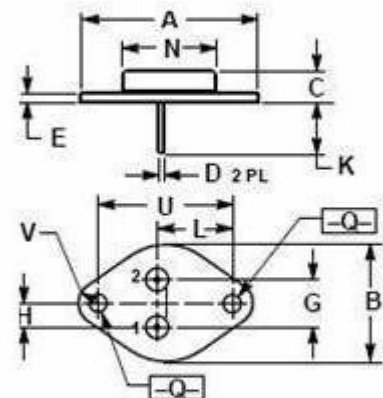
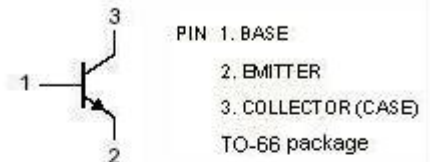
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CE0} = 40V(\text{Min})$
- Collector Power Dissipation-  
:  $P_C = 18W @ T_C = 25^\circ C$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

- Designed for use in general purpose amplifier and switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	70	V
$V_{CEO}$	Collector-Emitter Voltage	40	V
$V_{EBO}$	Emitter-Base Voltage	10	V
$I_C$	Collector Current-Continuous	3	A
$I_{CM}$	Collector Current-Peak	5	A
$I_B$	Base Current	1	A
$P_C$	Collector Power Dissipation@ $T_C = 25^\circ C$	18	W
$T_J$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature	-65~150	$^\circ C$



DIM	mm	
	MIN	MAX
A	31.40	31.80
B	17.30	17.70
C	6.70	7.10
D	0.70	0.90
E	1.40	1.60
G	5.08	
H	2.54	
K	9.80	10.20
L	14.70	14.90
N	12.40	12.60
Q	3.60	3.80
U	24.30	24.50
V	3.50	3.70

**isc Silicon NPN Power Transistor****2SD291****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=30\text{mA}$ ; $I_B=0$	40		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=2\text{A}$ ; $I_B=0.4\text{A}$		2.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=2\text{A}$ ; $V_{CE}=4\text{V}$		1.8	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=70\text{V}$ ; $V_{EB}=0$		0.1	mA
$I_{CEO}$	Collector Cutoff Current	$V_{CE}=40\text{V}$ ; $I_B=0$		0.5	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=8\text{V}$ ; $I_C=0$		10	uA
$h_{FE-1}$	DC Current Gain	$I_C=0.1\text{A}$ ; $V_{CE}=1\text{V}$	60		
$h_{FE-2}$	DC Current Gain	$I_C=2\text{A}$ ; $V_{CE}=1\text{V}$	20		
$f_T$	Current-Gain—Bandwidth Product	$I_C=0.1\text{A}$ ; $V_{CE}=10\text{V}$	4		MHz

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