

# isc Silicon NPN Power Transistor

## 2SC2270

### DESCRIPTION

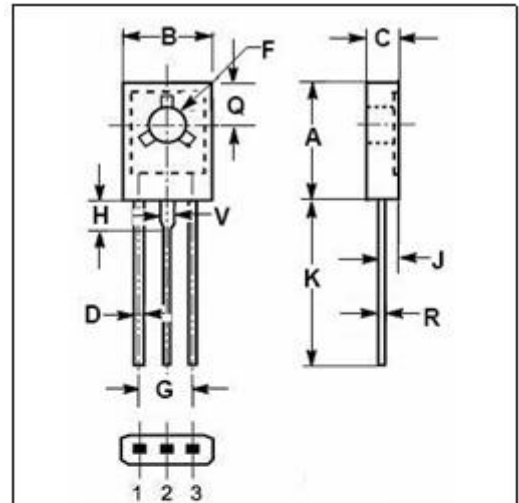
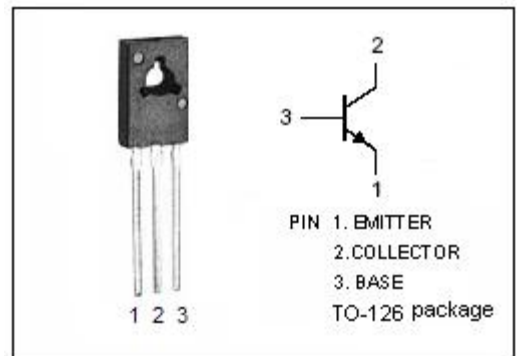
- High Collector Power Dissipation  
 $P_C=10W(T_C=25^\circ C)$ ,  $P_C=1.0W(T_a=25^\circ C)$
- High DC Current Gain  
 $h_{FE}=140\sim 450@V_{CE}=2V, I_C=0.5A$   
 $h_{FE}=70(\text{Min})@V_{CE}=2V, I_C=4A$
- Low Collector Saturation Voltage  
 $V_{CE(\text{sat})}=1.0V(\text{Max})@I_C=4A, I_B=0.1A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

- Designed for strobo flash and medium power amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	50	V
$V_{CEO}$	Collector-Emitter Voltage	20	V
$V_{CES}$	Collector-Emitter Voltage	40	V
$V_{EBO}$	Emitter-Base Voltage	8	V
$I_C$	Collector Current-Continuous	5	A
$I_{CM}$	Collector Current-Peak	8	A
$I_E$	Emitter Current-Continuous	-5	A
$I_{EM}$	Emitter Current-Peak	-8	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ C$	10	W
	Collector Power Dissipation @ $T_a=25^\circ C$	1.0	
$T_J$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ C$



DIM	mm	
	MIN	MAX
A	10.70	10.95
B	7.70	7.90
C	2.60	2.80
D	0.66	0.86
F	3.10	3.30
G	4.48	4.68
H	2.00	2.20
J	1.35	1.55
K	15.30	16.30
Q	3.70	3.90
R	0.40	0.60
V	1.17	1.37

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## ELECTRICAL CHARACTERISTICS

 $T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10\text{mA}; I_E=0$	20			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=1\text{mA}; I_C=0$	8			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=0.1\text{A}$			1.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=4\text{A}; V_{CE}=2\text{V}$			1.5	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=40\text{V}; I_E=0$			100	nA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=8\text{V}; I_C=0$			100	nA
$h_{FE-1}$	DC Current Gain	$I_C=0.5\text{A}; V_{CE}=2\text{V}$	140		450	
$h_{FE-2}$	DC Current Gain	$I_C=4\text{A}; V_{CE}=2\text{V}$	70			
$f_T$	Current-Gain—Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=2\text{V}$		100		MHz
$C_{ob}$	Collector Output Capacitance	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		40		pF

◆  $h_{FE-1}$  Classifications

A	B	C
140-240	200-330	300-450

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