

isc Silicon NPN Power Transistor

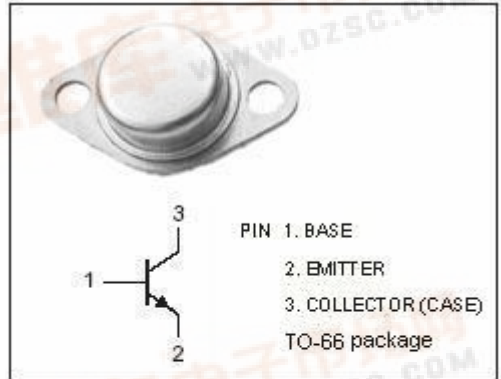
2SC2239

DESCRIPTION

- Collector-Emitter Breakdown Voltage  
:  $V_{(BR)CEO}=160V(\text{Min})$
- Good Linearity of  $h_{FE}$

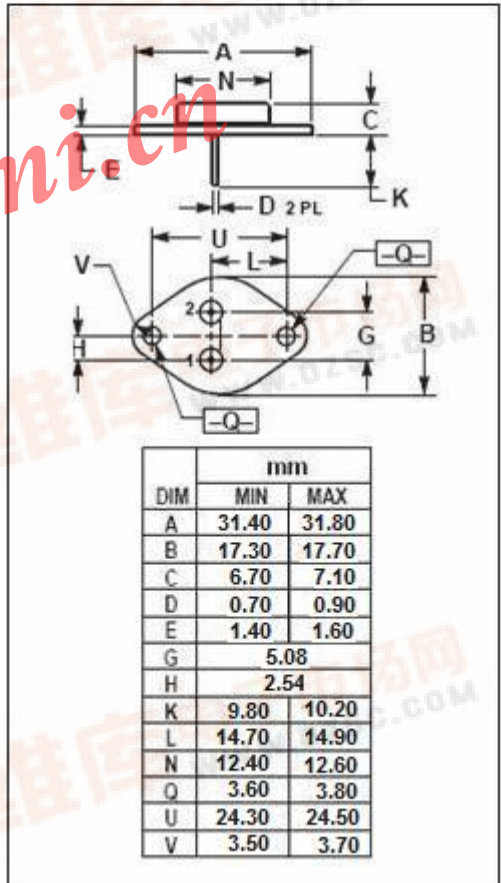
APPLICATIONS

- Power amplifier applications
- Driver stage amplifier applications



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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	160	V
$V_{CEO}$	Collector-Emitter Voltage	160	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	1.5	A
$I_E$	Emitter Current- Continuous	-1.5	A
$P_C$	Total Power Dissipation @ $T_C=25^\circ\text{C}$	25	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



## isc Silicon NPN Power Transistor

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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	$I_C=10\text{mA}$ ; $I_B=0$	160			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=1\text{mA}$ ; $I_C=0$	5			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=0.5\text{A}$ ; $I_B=50\text{mA}$			1.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=0.5\text{A}$ ; $V_{CE}=5\text{V}$			1.0	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=160\text{V}$ ; $I_E=0$			1.0	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5\text{V}$ ; $I_C=0$			1.0	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$I_C=0.1\text{A}$ ; $V_{CE}=5\text{V}$	70		240	
$C_{OB}$	Output Capacitance	$I_E=0$ ; $V_{CB}=10\text{V}$ ; $f_{test}=1\text{MHz}$		25		pF
$f_T$	Current-Gain—Bandwidth Product	$I_C=0.1\text{A}$ ; $V_{CE}=10\text{V}$		100		MHz

◆  $h_{FE}$  Classifications

O	Y
70-140	120-240