

isc Silicon NPN Power Transistor

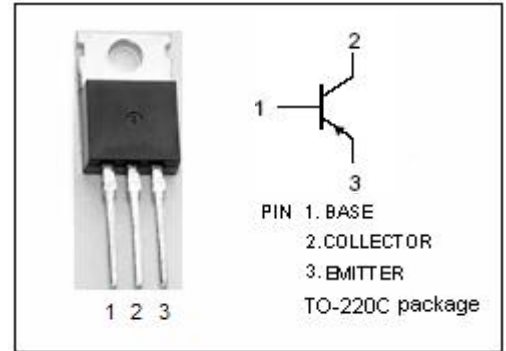
2SC2238 A B

DESCRIPTION

- With TO-220 packaging
- Complement to Type 2SA968 A B
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

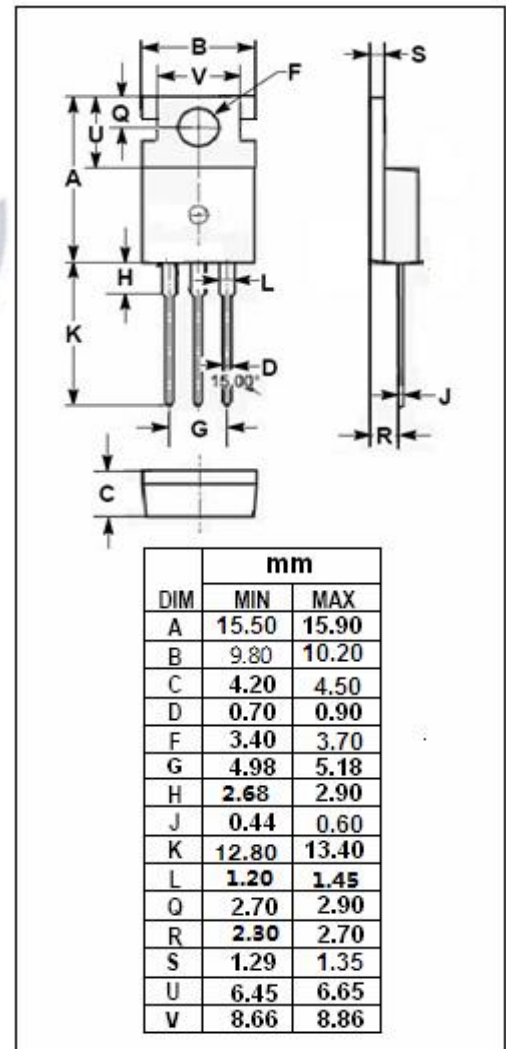
APPLICATIONS

- AC-DC motor control
- Electronic ignition
- Alternator regulator



ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT	
V _{CBO}	Collector-Base Voltage	2SC2238	160	V
		2SC2238A	180	
		2SC2238B	200	
V _{CEO}	Collector-Emitter Voltage	2SC2238	160	V
		2SC2238A	180	
		2SC2238B	200	
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°C	25	W	
T _J	Junction Temperature	150	°C	
T _{stg}	Storage Temperature Range	-55~150	°C	



isc Silicon NPN Power Transistor**2SC2238 A B****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	$I_C=10\text{mA}; I_B=0$	2SC2238	160		V
			2SC2238A	180		
			2SC2238B	200		
$V_{(BR)EBO}$	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	$V_{CB}=160\text{V}; I_E=0$	2SC2238		1.0	μA
		$V_{CB}=180\text{V}; I_E=0$	2SC2238A			
		$V_{CB}=200\text{V}; I_E=0$	2SC2238B			
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			1.0	μA
h_{FE}	DC Current Gain	$I_C=0.1\text{A}; V_{CE}=5\text{V}$	70		240	
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=1\text{MHz}$		30		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