

## isc Silicon NPN Power Transistor

2SD1138

## DESCRIPTION

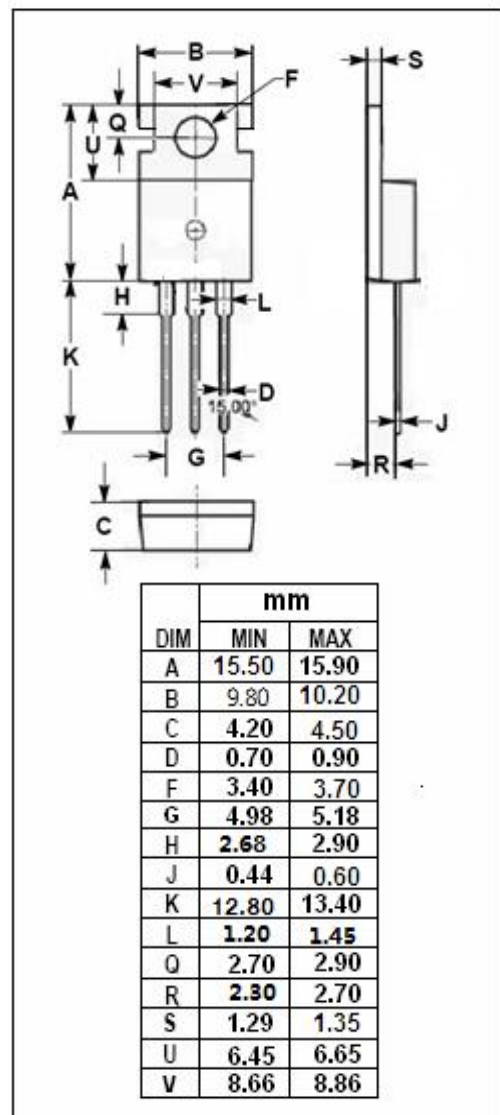
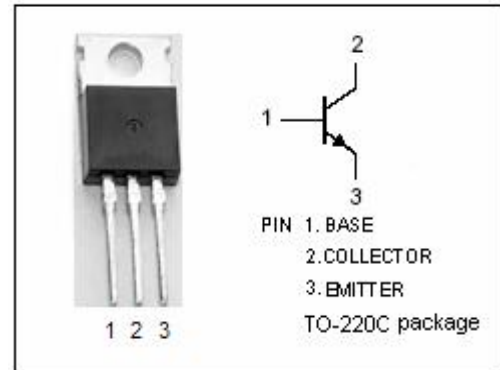
- High Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 150V$  (Min)
- Wide Area of Safe Operation
- Complement to Type 2SB861
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

- Designed for low frequency power amplifier TV vertical deflection output applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	200	V
$V_{CEO}$	Collector-Emitter Voltage	150	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current-Continuous	2	A
$I_{CM}$	Collector Current-Peak	5	A
$P_C$	Collector Power Dissipation @ $T_a=25^\circ C$	1.8	W
	Collector Power Dissipation @ $T_c=25^\circ C$	30	
$T_J$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-45~150	$^\circ C$



**isc Silicon NPN Power Transistor****2SD1138****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	$I_C=30\text{mA}; R_{BE}=\infty$	150			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=5\text{mA}; I_C=0$	6			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=0.5\text{A}; I_B=0.05\text{A}$			3.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=50\text{mA}; V_{CE}=4\text{V}$			1.0	V
$I_{CBO}$	Collector Cutoff Current	$V_{CE}=120\text{V}; I_E=0$			1	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C=50\text{mA}; V_{CE}=4\text{V}$	60		320	
$h_{FE-2}$	DC Current Gain	$I_C=500\text{mA}; V_{CE}=10\text{V}$	60			
$C_{OB}$	Output Capacitance	$I_E=0; V_{CB}=100\text{V}; f_{test}=1.0\text{MHz}$		20		pF

**◆  $h_{FE-1}$  Classifications**

B	C	D
60-120	100-200	160-320

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