

isc Silicon NPN Power Transistor

2SD1528

DESCRIPTION

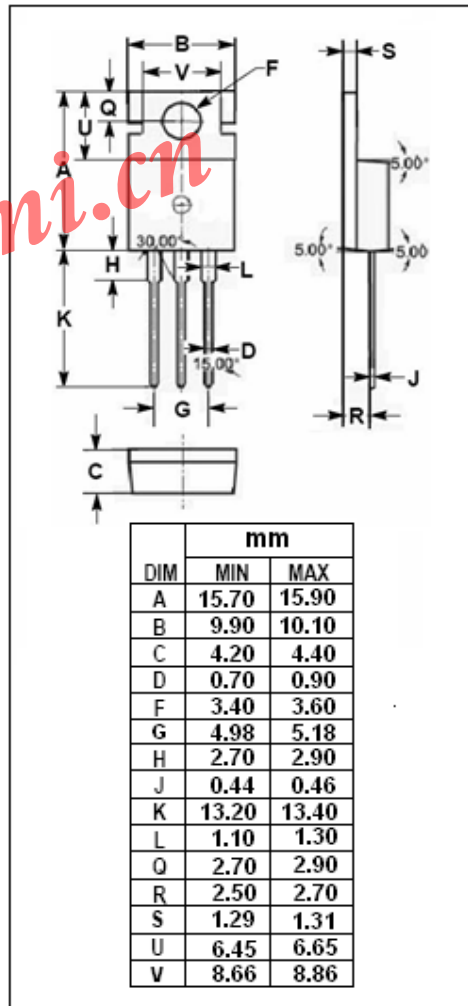
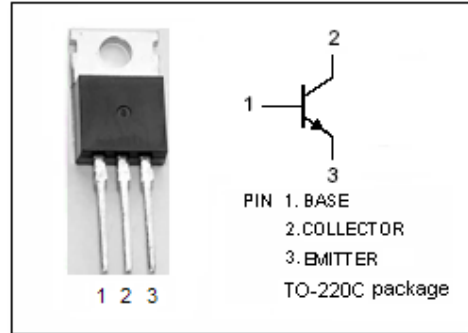
- Low Collector Saturation Voltage  
:  $V_{CE(sat)} = 0.5V(\text{Max}) @ I_C = 2A$
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 80V (\text{Min})$
- Good Linearity of  $h_{FE}$
- High Speed Switching

APPLICATIONS

- Designed for power amplifier, power switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	130	V
$V_{CEO}$	Collector-Emitter Voltage	80	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	3	A
$I_{CM}$	Collector Current-Peak	6	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	30	W
	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	1.4	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



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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	$I_C=10\text{mA}; I_B=0$	80			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=0.1\text{A}$			0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=0.1\text{A}$			1.2	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=100\text{V}; I_E=0$			10	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			50	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C=0.1\text{A}; V_{CE}=2\text{V}$	45			
$h_{FE-2}$	DC Current Gain	$I_C=1\text{A}; V_{CE}=2\text{V}$	60		260	
$f_T$	Current-Gain—Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=10\text{V}; f=10\text{MHz}$		25		MHz

## Switching times

$t_{on}$	Turn-on Time	$I_C=2\text{A}; I_{B1}=-I_{B2}=0.1\text{A}; V_{CC}=50\text{V}$			0.5	$\mu\text{s}$
$t_{stg}$	Storage Time				1.5	$\mu\text{s}$
$t_f$	Fall Time				0.5	$\mu\text{s}$

◆  $h_{FE-2}$  classifications

R	Q	P
60-120	90-180	130-260