

isc Silicon NPN Power Transistor

2SD318

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 60V(\text{Min})$
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 1.2V(\text{Max}) @ I_C = 3.0A$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

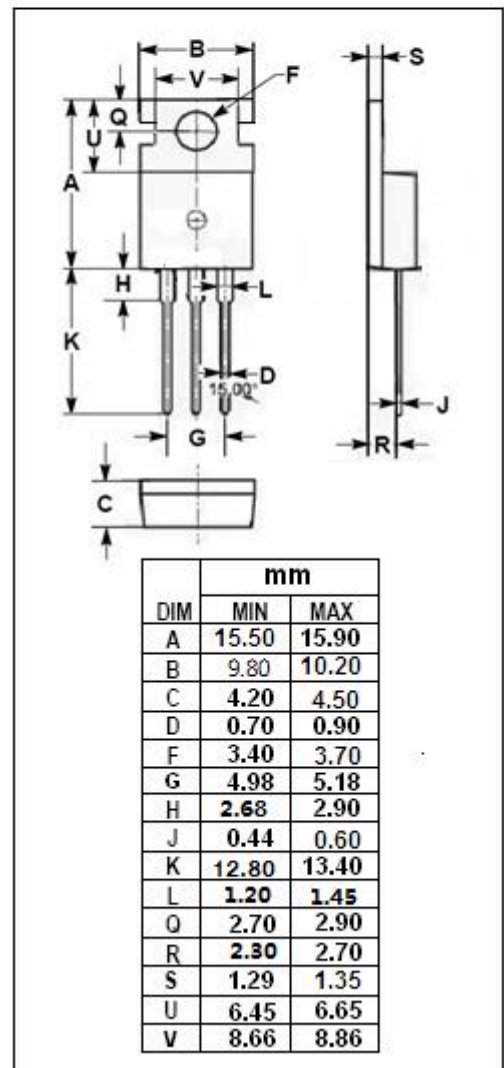
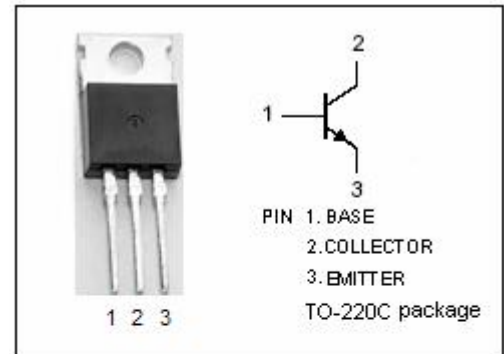
- Designed for use in general purpose power amplifier and switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	8	V
I_C	Collector Current-Continuous	3.0	A
I_{CM}	Collector Current-Peak	5.0	A
P_C	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	1.5	W
	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	25	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R_{thj-c}	Thermal Resistance, Junction to Case	3.125	$^\circ\text{C/W}$



isc Silicon NPN Power Transistor**2SD318****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 10mA ; I _B = 0	60			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 3A ; I _B = 0.3A			1.2	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = 3A ; V _{CE} = 4V			1.8	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 60V ; I _E = 0			0.1	mA
I _{CEO}	Collector Cutoff Current	V _{CE} = 60V ; I _B = 0			0.5	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V ; I _C = 0			0.1	mA
h _{FE-1}	DC Current Gain	I _C = 0.1A ; V _{CE} = 3V	60			
h _{FE-2}	DC Current Gain	I _C = 1A ; V _{CE} = 3V	60		320	
f _T	Current-Gain—Bandwidth Product	I _C = 0.5A; V _{CE} = 10V; f _{test} = 1.0MHz	3			MHz
C _{OB}	Output Capacitance	I _E = 0 ; V _{CB} = 10V, f _{test} = 1MHz		65		pF

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