

Silicon PNP Power Transistor

2SA1757

DESCRIPTION

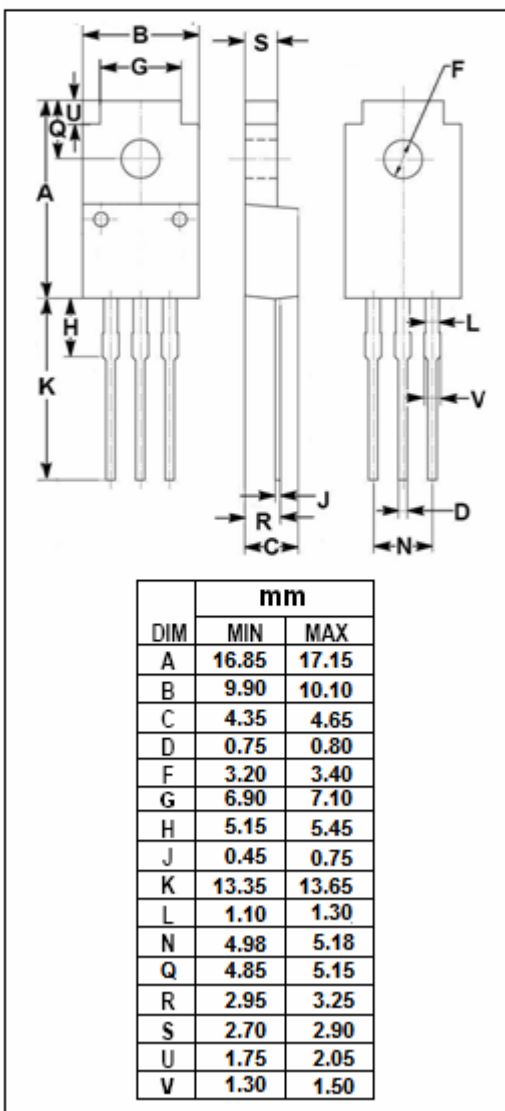
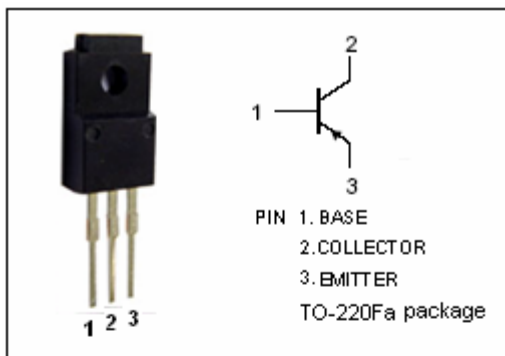
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = -60V(\text{Min})$
- High Switching Speed
- Low Saturation Voltage-
: $V_{CE(sat)} = -0.3V(\text{Max}) @ (I_C = -3A, I_B = -0.15A)$
- Wide Area of Safe Operation

APPLICATIONS

- Designed for power switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-100	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-5	A
I_{CM}	Collector Current-Peak	-10	A
P_C	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	25	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = -1mA ; I _B = 0	-60			V
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = -3A ; I _B = -0.3A; L= 1mH	-60			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = -50 μ A ; I _C = 0	-5			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _E = -50 μ A ; I _C = 0	-100			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = -3A; I _B = -0.15A			-0.3	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = -4A; I _B = -0.2A			-0.5	V
V _{BE(sat)-1}	Base-Emitter Saturation Voltage	I _C = -3A; I _B = -0.15A			-1.2	V
V _{BE(sat)-2}	Base-Emitter Saturation Voltage	I _C = -4A; I _B = -0.2A			-1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = -100V ; I _E =0			-10	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = -5V; I _C =0			-10	μ A
h _{FE}	DC Current Gain	I _C = -1A ; V _{CE} = -2V	160		320	
f _T	Current-Gain—Bandwidth Product	I _E = 0.5A; V _{CE} = -10V; f _{test} = 30MHz		80		MHz
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = -10V; f _{test} = 1MHz		130		pF

Switching times

t _{on}	Turn-on Time	R _L = 10 Ω, V _{CC} = -30V I _C = -3A; I _{B1} = -I _{B2} = -0.15A			0.3	μ s
t _{stg}	Storage Time				1.5	μ s
t _f	Fall Time				0.3	μ s