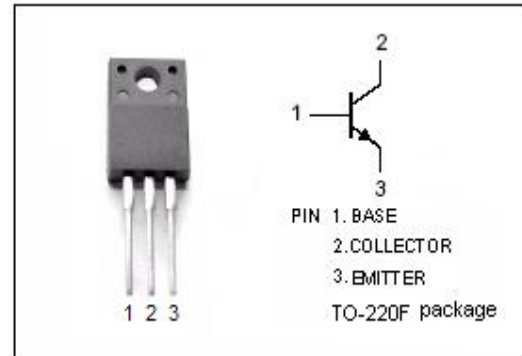


isc Silicon NPN Power Transistor
2SC3747
DESCRIPTION

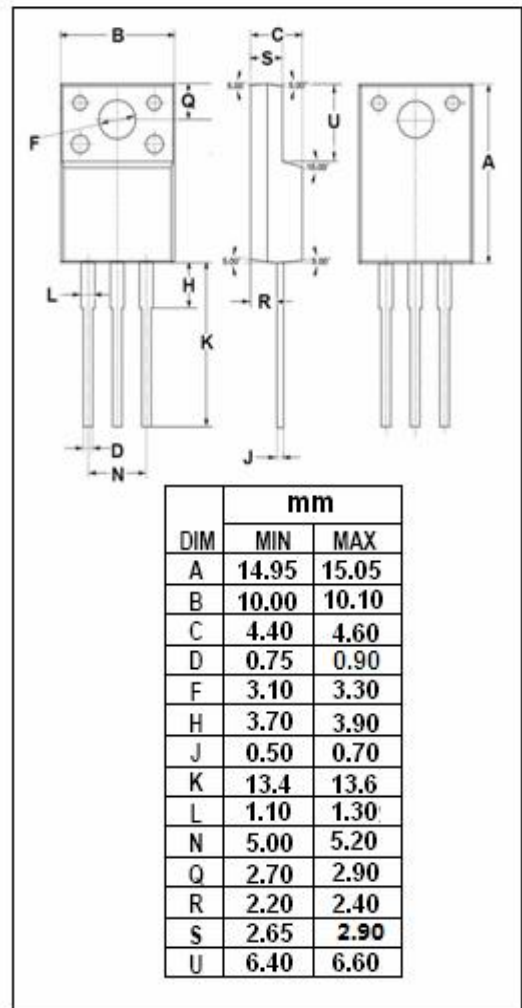
- Good Linearity of h_{FE}
- High Switching Speed
- Low Collector Saturation Voltage
- Complement to Type 2SA1470
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Inductance, lamp drivers
- Inverters, converters
- Power amplifiers
- High-speed switching applications.


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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	7	A
I_{CM}	Collector Current-Pulse	10	A
P_C	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	25	W
	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2.0	
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; R _{BE} = ∞	60			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 1mA; I _E = 0	80			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 1mA; I _C = 0	5			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 3.5A; I _B = 0.175A			0.4	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 40V ; I _E = 0			100	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 4V; I _C = 0			100	μ A
h _{FE}	DC Current Gain	I _C = 1A ; V _{CE} = 2V	70		280	
f _T	Current-Gain—Bandwidth Product	I _C = 1A ; V _{CE} = 5V		100		MHz

Switching times

t _{on}	Turn-on Time	I _C = 3A , I _{B1} = -I _{B2} = 0.15A; R _L = 6.67 Ω ; V _{CC} = 20V		0.1		μ s
t _{stg}	Storage Time			0.5		μ s
t _f	Fall Time			0.1		μ s

◆ h_{FE} Classifications

Q	R	S
70-140	100-200	140-280

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