

isc Silicon NPN Power Transistor
2SC3058A
DESCRIPTION

- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 450V(\text{Min})$
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} \leq 1 V @ I_C = 4A$
- High Switching Speed
- Wide Area of Safe Operation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

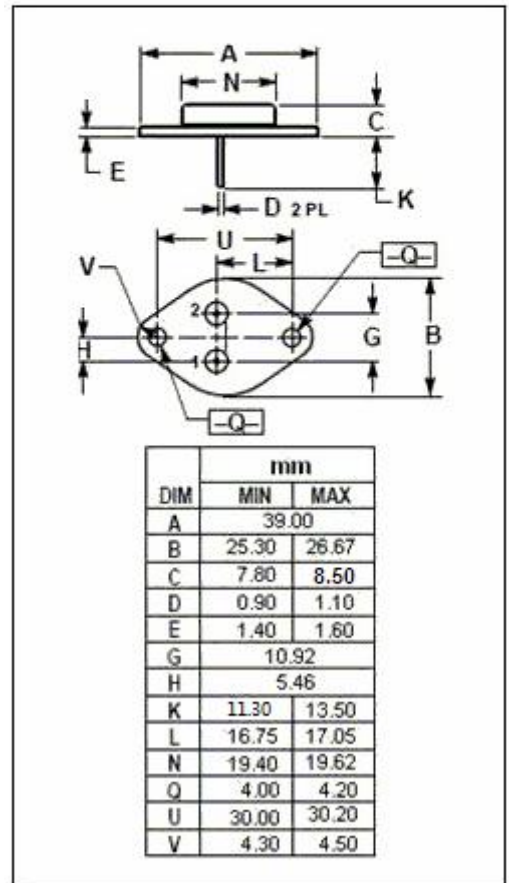
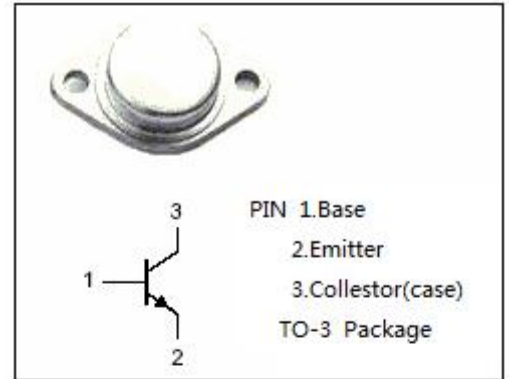
- For switching regulator and DC/DC converter applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	600	V
V_{CEO}	Collector-Emitter Voltage	450	V
V_{EBO}	Emitter-Base voltage	7	V
I_C	Collector Current-Continuous	30	A
I_{CM}	Collector Current-Peak	50	A
I_B	Base Current-Continuous	10	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	200	W
T_J	Junction Temperature	175	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~175	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R_{th-j-c}	Thermal Resistance, Junction to Case	1	$^\circ\text{C/W}$



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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	450			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 1 mA; I _E = 0	600			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 1mA; I _C = 0	7			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 20A; I _B = 4A			1.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 20A; I _B = 4A			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 500V; I _E = 0			100	uA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			100	uA
h _{FE-1}	DC Current Gain	I _C = 1A; V _{CE} = 5V	15		50	
h _{FE-2}	DC Current Gain	I _C = 20A; V _{CE} = 5V	10		40	
f _T	Current-Gain—Bandwidth Product	I _C = 4A; V _{CE} = 10V		30		MHz
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V; f _{test} = 1.0MHz		420		pF

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