

DESCRIPTION

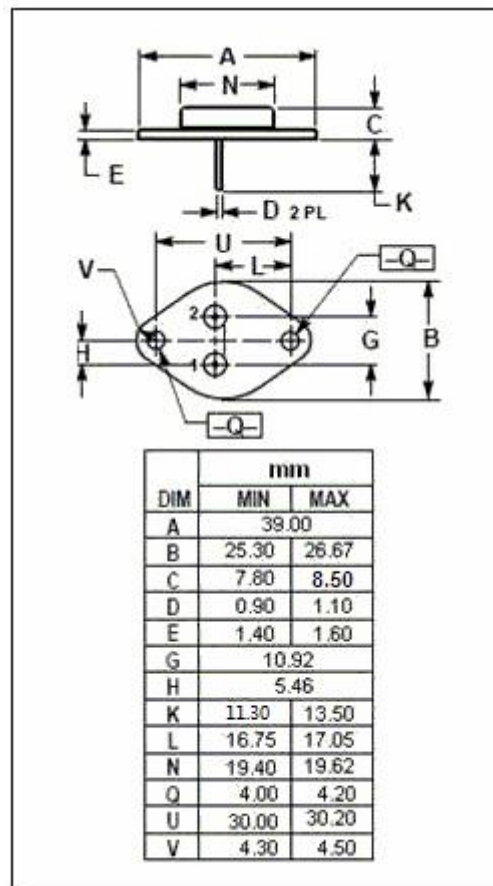
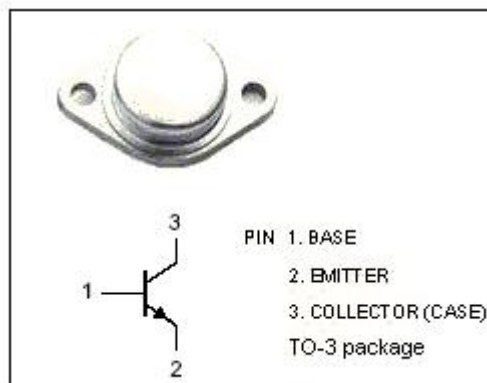
- High Collector-Emitter Sustaining Voltage-
: $V_{CEO(sus)} = 400V(\text{Min})$
- High Switching Speed
- Wide Area of Safe Operation

APPLICATIONS

- Switching regulators
- Motor controls
- Ultrasonic generators
- Class C and D amplifiers
- Deflection circuits

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	400	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	$^\circ\text{C}$



SPTECH Silicon NPN Power Transistor

2SC3058

ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEQ(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=30\text{mA}$; $R_{BE}=\infty$	400			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=1\text{mA}$; $I_E=0$	600			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=1\text{mA}$; $I_C=0$	7			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=20\text{A}$; $I_B=4\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=20\text{A}$; $I_B=4\text{A}$			1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=500\text{V}$; $I_E=0$ $V_{CB}=500\text{V}$; $I_E=0$; $T_C=100^{\circ}\text{C}$			0.1 2.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=6\text{V}$; $I_C=0$			100	μA
h_{FE}	DC Current Gain	$I_C=20\text{A}$; $V_{CE}=5\text{V}$	10		40	
f_T	Current-Gain—Bandwidth Product	$I_C=4\text{A}$; $V_{CE}=10\text{V}$	15			MHz
C_{OB}	Output Capacitance	$I_E=0$; $V_{CB}=10\text{V}$; $f_{test}=1.0\text{MHz}$		420		pF

Switching times

t_r	Rise Time	$I_C=20\text{A}$, $I_{B1}=-I_{B2}=4\text{A}$; $V_{CC}=150\text{V}$			0.5	μs
t_{stg}	Storage Time				3.0	μs
t_f	Fall Time				0.3	μs