

ISC Silicon NPN Power Transistor

2SD878

DESCRIPTION

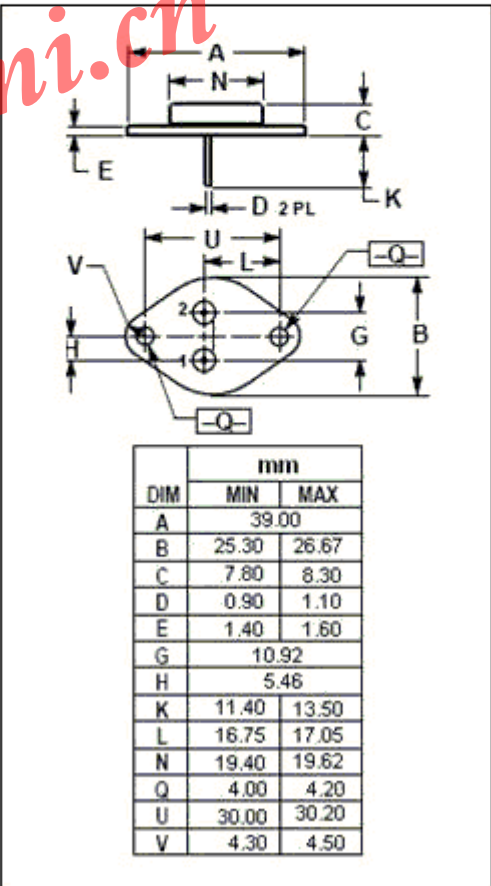
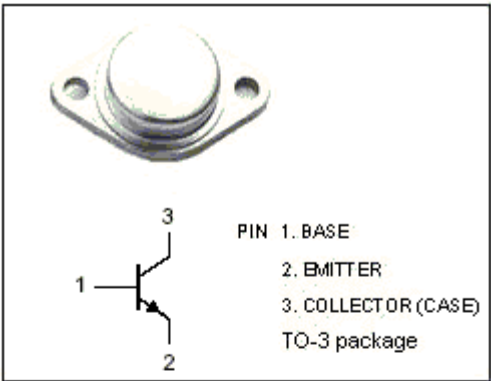
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 60V$ (Min)
- High Power Dissipation
- High Current Capability

APPLICATIONS

- High power amplifier applications.
- High power switching applications.
- DC-DC converter applications.
- Regulator applications.

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

SYMBOL	PARAMETER	MAX	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	15	A
I_B	Base Current-Continuous	7	A
P_C	Collector Power Dissipation @ $T_C=25^{\circ}C$	115	W
T_j	Junction Temperature	175	$^{\circ}C$
T_{stg}	Storage Temperature Range	-65~175	$^{\circ}C$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=50\text{mA}; I_B=0$	60			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=0.4\text{A}$			1.1	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=4\text{A}; V_{CE}=4\text{V}$			1.8	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=100\text{V}; I_E=0$			0.1	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=7\text{V}; I_C=0$			0.1	mA
h_{FE-1}	DC Current Gain	$I_C=4\text{A}; V_{CE}=4\text{V}$	20		70	
h_{FE-2}	DC Current Gain	$I_C=10\text{A}; V_{CE}=4\text{V}$	5			
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{\text{test}}=1.0\text{MHz}$		150		pF
f_T	Current-Gain Bandwidth Product	$I_C=1\text{A}; V_{CE}=4\text{V}$		1.5		MHz

Switching Times

t_{on}	Turn-on Time	$V_{CC}=50\text{V}, R_L=10\Omega, I_{B1}=-I_{B2}=0.5\text{A}$		2.5		μs
t_{stg}	Storage Time			3.5		
t_f	Fall Time			1.2		