

isc Silicon NPN Power Transistor

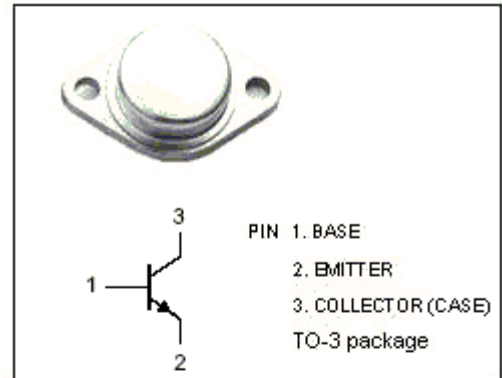
2SD640

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 400V$ (Min)
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 1.5V$ (Max.) @ $I_C = 5A$

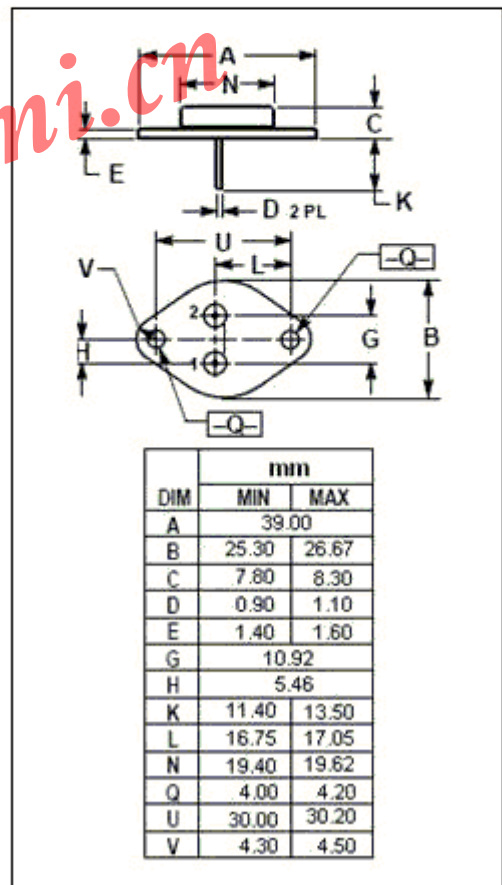
APPLICATIONS

- High voltage switching applications.
- High power amplifier applications.



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

SYMBOL	PARAMETER	MAX	UNIT
V_{CBO}	Collector-Base Voltage	600	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	7	A
I_B	Base Current-Continuous	2	A
P_C	Collector Power Dissipation @ $T_C=25^\circ C$	100	W
T_j	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-65~150	$^\circ C$



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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	$I_C=10\text{mA}; I_B=0$	400			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=1\text{A}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}; I_B=1\text{A}$			2.0	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=500\text{V}; I_E=0$			0.1	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			1.0	mA
h_{FE}	DC Current Gain	$I_C=1\text{A}; V_{CE}=5\text{V}$	25		140	
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=50\text{V}; f_{resf}=1.0\text{MHz}$		70		pF
f_T	Current-Gain—Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=10\text{V}$		3		MHz

Switching Times

t_{on}	Turn-on Time	$I_{B1}=-I_{B2}=0.3\text{A}; V_{CC}=200\text{V}$		1.0		μs
t_{stg}	Storage Time			3.0		μs
t_f	Fall Time			0.6		μs