

*New Jersey Semi-Conductor Products, Inc.*

20 STERN AVE.  
SPRINGFIELD, NEW JERSEY 07081  
U.S.A.

TELEPHONE: (973) 376-2922  
(212) 227-6005  
FAX: (973) 376-8960

## Silicon NPN Power Transistor

## 2SC5387

### DESCRIPTION

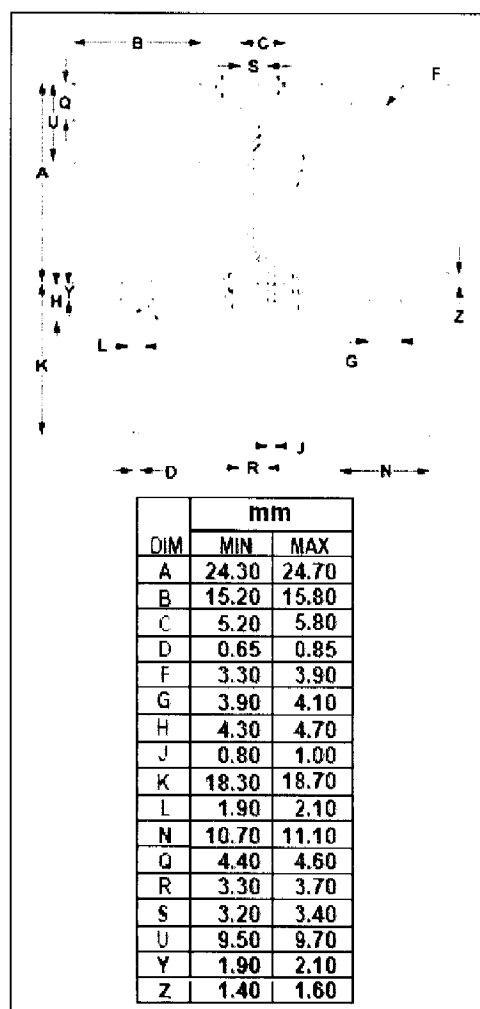
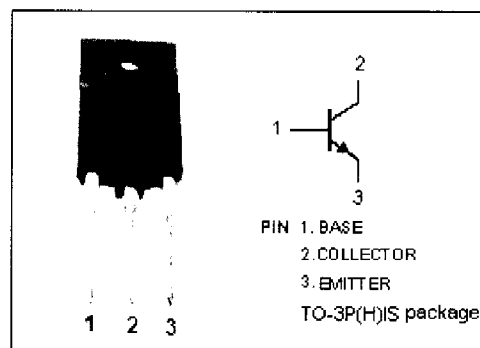
- High Breakdown Voltage-  
:  $V_{CBO} = 1200V$  (Min)
- High Switching Speed
- Low Saturation Voltage

### APPLICATIONS

- Horizontal deflection output for high resolution display, color TV.
- High speed switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	1200	V
$V_{CEO}$	Collector-Emitter Voltage	600	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current- Continuous	10	A
$I_{CM}$	Collector Current- Pulse	20	A
$I_B$	Base Current- Continuous	5	A
$P_C$	Collector Power Dissipation @ $T_c = 25^\circ C$	50	W
$T_J$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ C$



NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

**Quality Semi-Conductors**

## Silicon NPN Power Transistor

## 2SC5387

## 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	$I_C=10\text{mA}; I_B=0$	600			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=8\text{A}; I_B=2\text{A}$			3.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=8\text{A}; I_B=2\text{A}$			1.5	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=1200\text{V}; I_E=0$			1	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			10	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C=1\text{A}; V_{CE}=5\text{V}$	15		35	
$h_{FE-2}$	DC Current Gain	$I_C=8\text{A}; V_{CE}=5\text{V}$	4.3		7.8	
$f_T$	Current-Gain—Bandwidth Product	$I_C=0.1\text{A}; V_{CE}=10\text{V}$		1.7		MHz
$C_{OB}$	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=1.0\text{MHz}$		130		pF
$t_{stg}$	Storage Time	$I_{CP}=6\text{A}; I_{B1(end)}=1.2\text{A}; f_H=64\text{kHz}$		2.5	3.5	$\mu\text{s}$
$t_f$	Fall Time			0.15	0.3	$\mu\text{s}$