

**Silicon NPN Power Transistors**

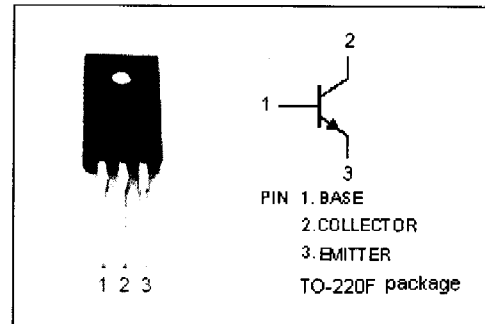
**MJF44H11**

**DESCRIPTION**

- Low Collector Saturation Voltage-  
 :  $V_{CE(sat)} = 1.0V(\text{Max.}) @ I_C = 8A$
- Fast Switching Speeds
- Complement to Type MJF45H11

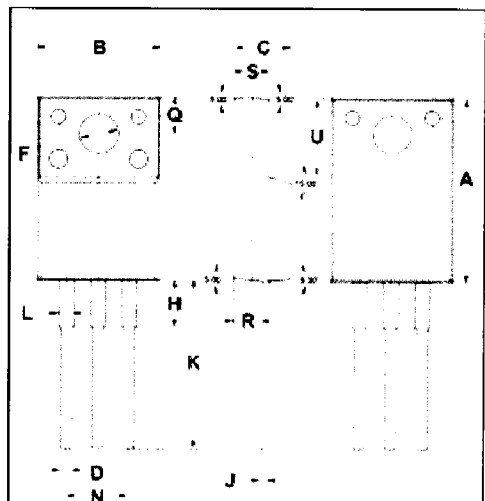
**APPLICATIONS**

- Designed for general purpose power amplification and switching such as output or driver stages in applications such as switching regulators, converters and power amplifier.



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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CEO}$	Collector-Emitter Voltage	80	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	10	A
$I_{CM}$	Collector Current-Peak	20	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	36	W
	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2	
$T_j$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$

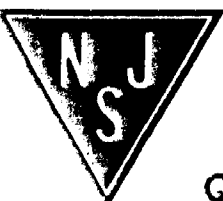


DIM	mm	
	MIN	MAX
A	14.95	15.05
B	10.00	10.10
C	4.40	4.60
D	0.75	0.80
F	3.10	3.30
H	3.70	3.90
J	0.50	0.70
K	13.4	13.6
L	1.10	1.30
N	5.00	5.20
Q	2.70	2.90
R	2.20	2.40
S	2.65	2.85
U	6.40	6.60

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	3.5	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ\text{C/W}$

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## Silicon NPN Power Transistors

## MJF44H11

### ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=30\text{mA}; I_B=0$	80			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=8\text{A}; I_B=0.4\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=8\text{A}; I_B=0.8\text{A}$			1.5	V
$I_{CES}$	Collector Cutoff Current	$V_{CE}=\text{Rated } V_{CEO};$			1.0	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$			10	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C=2\text{A}; V_{CE}=1\text{V}$	60			
$h_{FE-2}$	DC Current Gain	$I_C=4\text{A}; V_{CE}=1\text{V}$	40			
$C_{OB}$	Output Capacitance	$V_{CB}=10\text{V}; f=0.1\text{MHz}$		130		pF
$f_T$	Current-Gain—Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=10\text{V}; f_{test}=20\text{MHz}$		50		MHz

### Switching Times

$t_{on}$	Turn-On Time	$I_C=5\text{A}; I_{B1}=0.5\text{A}$		0.3		$\mu\text{s}$
$t_s$	Storage Time	$I_C=5\text{A}; I_{B1}=-I_{B2}=0.5\text{A}$		0.5		$\mu\text{s}$
$t_f$	Fall Time			0.14		$\mu\text{s}$