

## isc Silicon NPN Power Transistor

2SC4299

## DESCRIPTION

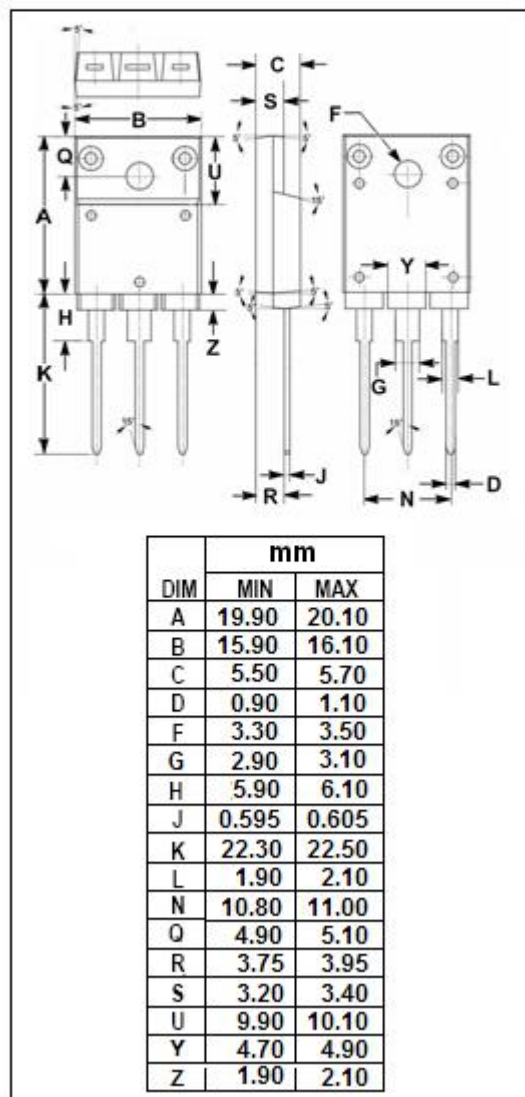
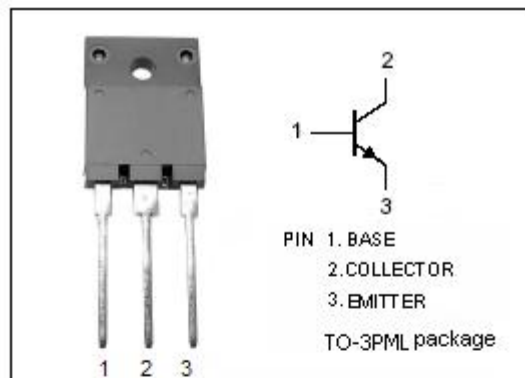
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 800V(\text{Min})$
- High Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

- Designed for switching regulator and general purpose applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	900	V
$V_{CEO}$	Collector-Emitter Voltage	800	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	3	A
$I_{CM}$	Collector Current-Peak	6	A
$I_B$	Base Current-Continuous	1.5	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	70	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~150	$^\circ\text{C}$



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## ELECTRICAL CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 10mA; I_B = 0$	800			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 1A; I_B = 0.2A$			0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 1A; I_B = 0.2A$			1.2	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB} = 800V; I_E = 0$			100	$\mu A$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = 7V; I_C = 0$			100	$\mu A$
$h_{FE}$	DC Current Gain	$I_C = 1A; V_{CE} = 4V$	10		30	
$C_{OB}$	Output Capacitance	$I_E = 0; V_{CB} = 10V; f = 1MHz$		50		pF
$f_T$	Current-Gain—Bandwidth Product	$I_E = -0.3A; V_{CE} = 12V$		6		MHz

## Switching Times

$t_{on}$	Turn-On Time	$I_C = 1A; I_{B1} = 0.15A; I_{B2} = -0.5A;$ $V_{CC} = 250V; R_L = 250\Omega$			1.0	$\mu s$
$t_{stg}$	Storage Time				5.0	$\mu s$
$t_f$	Fall Time				1.0	$\mu s$

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