

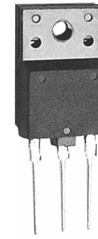


## 2SD2499

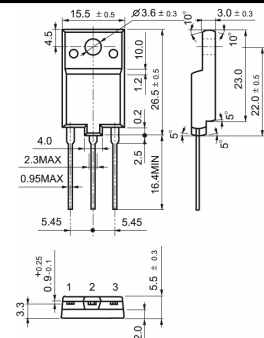
## SILICON DIFFUSED POWER TRANSISTOR

### GENERAL DESCRIPTION

Highvoltage,high-speed switching npn transistors in a plastic envelope with integrated efficiency diode,primarily for use in horizontal deflection circuites of colour television receivers



TO-3PM



### QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CESM}$	Collector-emitter voltage peak value	$V_{BE} = 0V$	-	1500	V
$V_{CEO}$	Collector-emitter voltage (open base)		-	600	V
$I_C$	Collector current (DC)		-	5	A
$I_{CM}$	Collector current peak value		-	10	A
$P_{tot}$	Total power dissipation	$T_{mb} \leq 25^\circ C$	-	50	W
$V_{CEsat}$	Collector-emitter saturation voltage	$I_C = 4.0A; I_B = 0.8A$	-	5	V
$I_{csat}$	Collector saturation current	$f = 16KHz$	-	-	A
$V_F$	Diode forward voltage	$I_F = 4.0A$	1.5	2.0	V
$t_f$	Fall time	$I_{Csat} = 4.0A; f = 16KHz$	-	1.0	$\mu s$

### LIMITING VALUES

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CESM}$	Collector-emitter voltage peak value	$V_{BE} = 0V$	-	1500	V
$V_{CEO}$	Collector-emitter voltage (open base)		-	600	V
$I_C$	Collector current (DC)		-	5	A
$I_{CM}$	Collector current peak value		-	10	A
$I_B$	Base current (DC)		-	2	A
$I_{BM}$	Base current peak value		-	-	A
$P_{tot}$	Total power dissipation	$T_{mb} \leq 25^\circ C$	-	50	W
$T_{sto}$	Storage temperature		-55	150	$^\circ C$
$T_j$	Junction temperature		-	150	$^\circ C$

### ELECTRICAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$I_{CE}$	Collector cut-off current	$V_{BE} = 0V; V_{CE} = V_{CESMmax}$	-	1.0	mA
$I_{CES}$		$V_{BE} = 0V; V_{CE} = V_{CESMmax}$	-	2.5	mA
$V_{CEOsust}$	Collector-emitter sustaining voltage	$T_j = 125^\circ C$ $I_B = 0A; I_C = 100mA$ $L = 25mH$	-	-	V
$V_{CEsat}$	Collector-emitter saturation voltages	$I_C = 4.0A; I_B = 0.8A$	-	5	V
$V_{BESat}$	Base-emitter saturation voltage	$I_C = 4.0A; I_B = 0.8A$	-	1.5	V
$h_{FE}$	DC current gain	$I_C = 1A; V_{CE} = 5V$	8	40	
$V_F$	Diode forward voltage	$I_F = 4.0A$	1.5	2.0	V
$f_T$	Transition frequency at $f = 5MHz$	$I_C = 0.1A; V_{CE} = 10V$	1	-	MHz
$C_c$	Collector capacitance at $f = 1MHz$	$V_{CB} = 10V$	-	230	pF
$t_s$	Switching times(16KHz line deflecton circuit)	$I_C=4A, I_{B(end)}=0.8A, V_{CC}=100V$	-	-	$\mu s$
$t_f$	Turn-off storage time Turn-off fall time	$I_C=4A, I_{B(end)}=0.8A, V_{CC}=100V$	0.35	1.0	$\mu s$