



High-end Power Semiconductor Manufacturer

## Fast Switching Thyristor

### Features

- High current rating
- Excellent dynamic characteristics
- Superior surge capabilities
- Standard package
- Metric Device version available

### Typical Applications

- Phase control applications in converters
- Lighting circuits
- Battery charges
- Regulated power supplies and temperature and speed control circuit
- Can be supplied to meet stringent military, aerospace and other high-reliability requirements
- Power supplier & motor controls

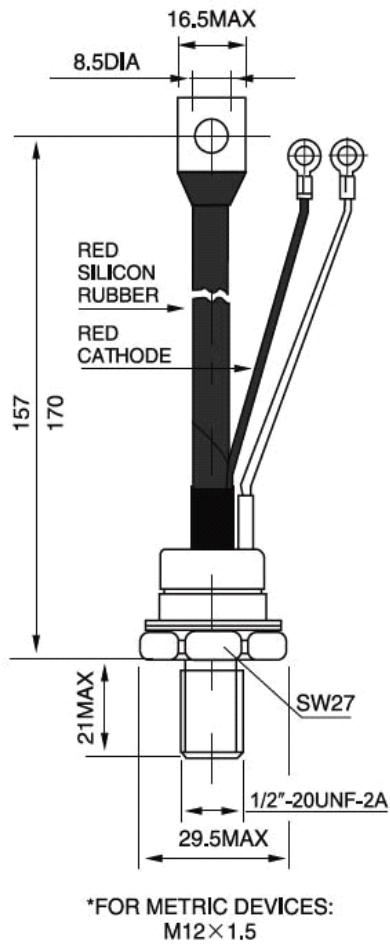


### ELECTRICAL CHARACTERISTICS

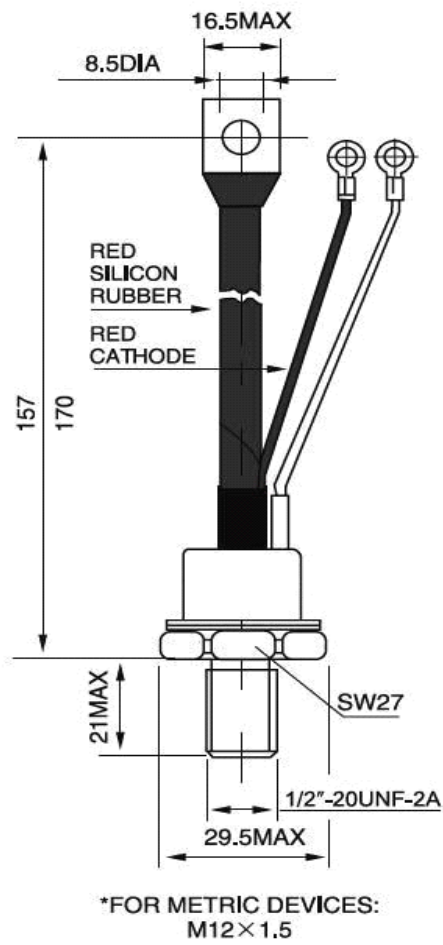
Symbol	Parameter	Conditions	KKS80	KKS100	KKS130	Unit
$I_T(AV)$	Average on-state current	$T_c=55^\circ C$	80	100	130	A
$I_{T(RMS)}$	RMS on-state current	$T_c=55^\circ C$	128	160	208	A
$I_{TSM}$	Surge on current	$T_c=25^\circ C$ 10ms	1700	2000	2760	A
$I^2t$	$I^2t$ value	$T_c=25^\circ C$ 10ms	14500	20000	25000	A
$V_{RRM}$	Repetitive peak reverse voltage	$T_c=125^\circ C$	400-1600			V
$I_{RRM}$	Repetitive peak reverse current	$T_c=125^\circ C$	$\leq 15.0$	$\leq 15.0$	$\leq 15.0$	mA
$V_{TM}$	On-state voltage	$T_c=25^\circ C$	1.65	1.6	1.55	V
$I_{TM}$	On-state Current	$T_c=25^\circ C$	240	300	390	A
$I_{GT}$	Gate Trigger Current	$T_c=25^\circ C$	50-200			mA
$V_{GT}$	Gate Trigger Voltage	$T_c=25^\circ C$	$\leq 2.5$			V
$V_{GD}$	Max DC gate voltage not to trigger	$T_j=125^\circ C$ , DC	0.25			V
$I_H$	Holding Current	$T_c=25^\circ C$	$\leq 400$			mA
$dv/dt$	Rate Of Rise Of On-State Voltage	$T_c=25^\circ C$	$\geq 800$			V/us
$di/dt$	Rate Of Rise Of On-State Current	$T_c=25^\circ C$	$\geq 100$			A/us
$R_{j-c}$	Peak gate forward voltage		$\leq 0.6$	$\leq 0.6$	$\leq 0.55$	$^\circ C/W$
$T_q$	Turn off time	$T_c=25^\circ C$	15~30			us
$T_j$	Junction temperature		-40~+125			$^\circ C$
$T_{stg}$	Storage temperature		-40~+125			$^\circ C$
MT	Mounting torque		$\leq 12.0$			N·m
Wt	Weight	Typical value	130	130	160	g

**Outline table**

(Dimension in mm)

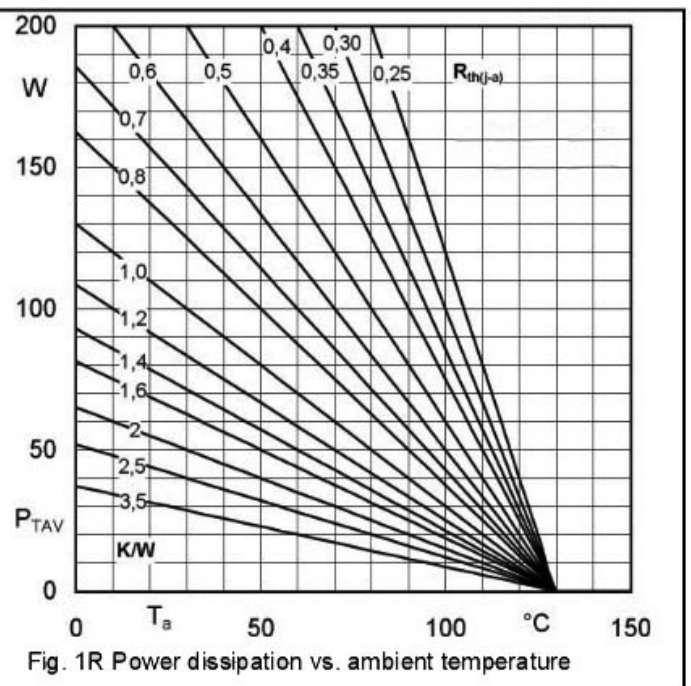
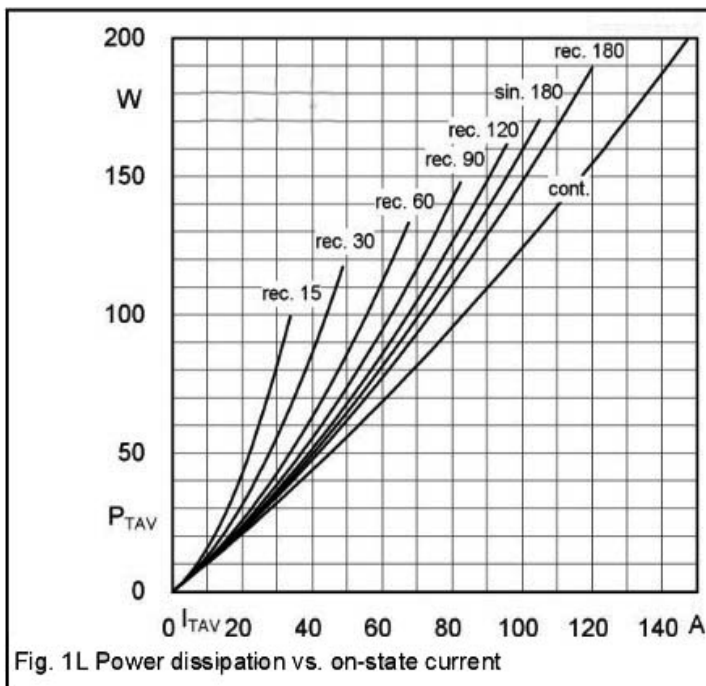


**T3**



**T3 METAL-GLASS TYPE**

Dimension in mm



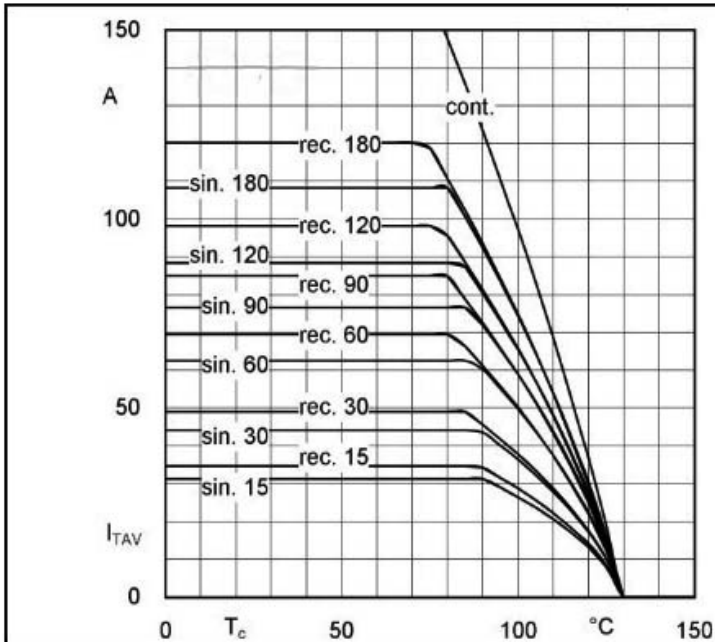


Fig. 2 Rated on-state current vs. case temperature

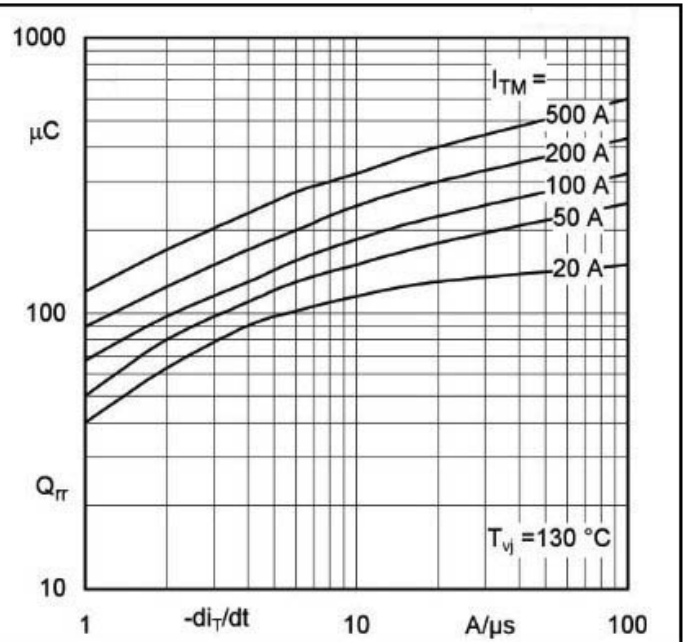


Fig. 3 Recovered charge vs. current decrease

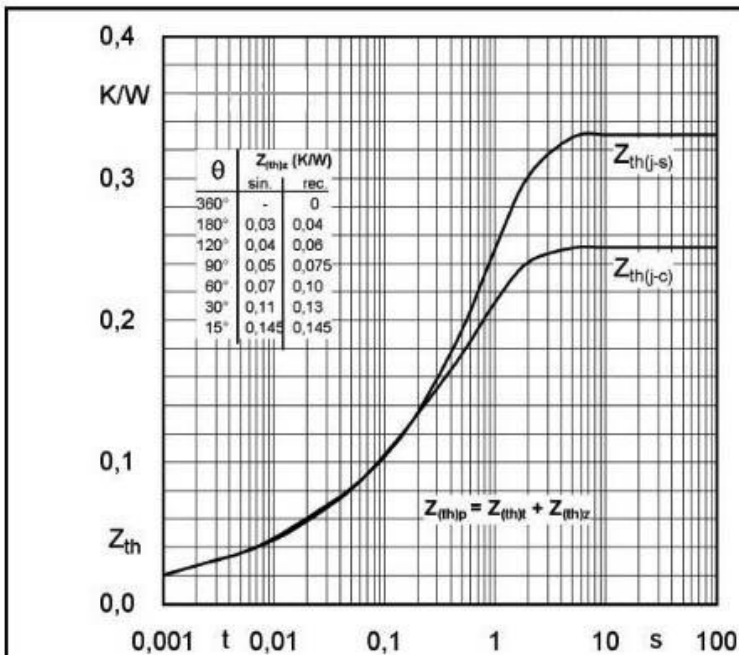


Fig. 4 Transient thermal impedance vs. time

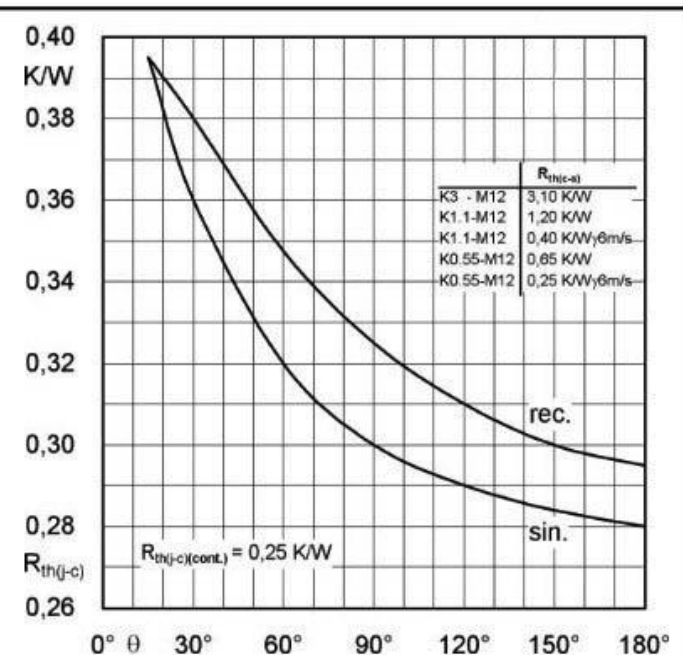


Fig. 5 Thermal resistance vs. conduction angle

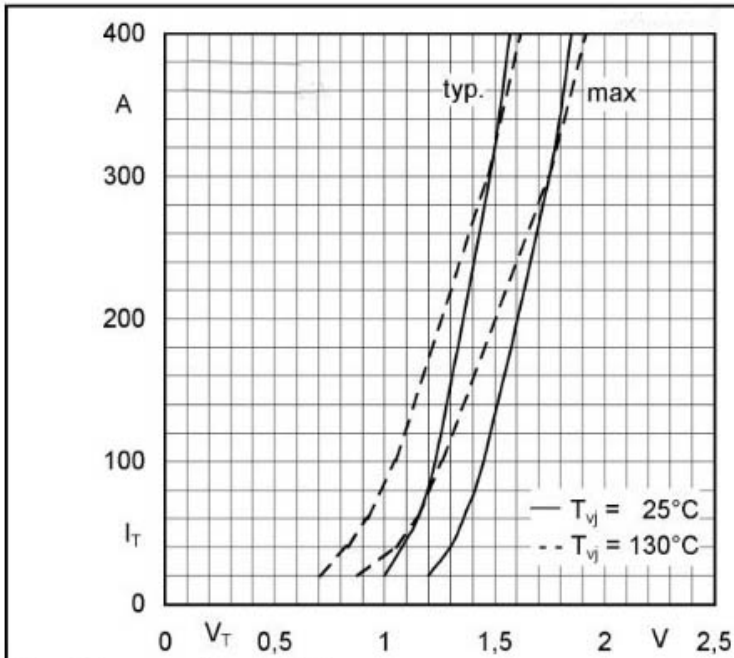


Fig. 6 On-state characteristics

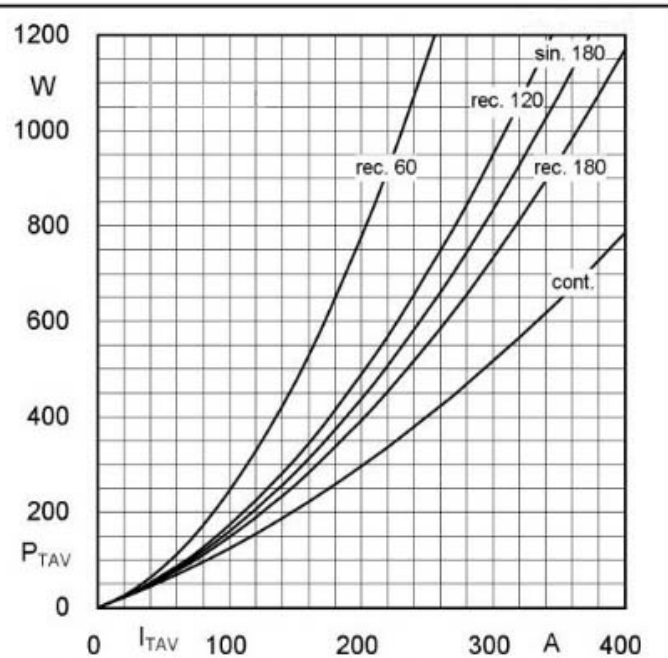


Fig. 7 Power dissipation vs. on-state current

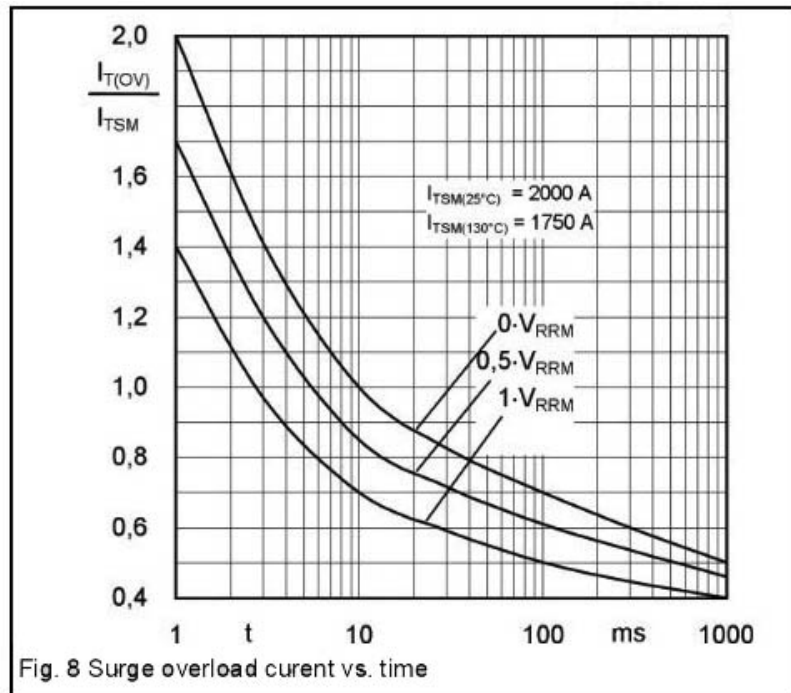


Fig. 8 Surge overload current vs. time