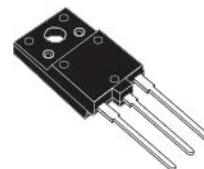
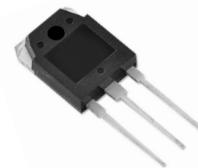


EST F45D60UHB/A

TURBO 2 ULTRAFast HIGH VOLTAGE RECTIFIER

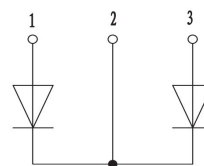
Features

- Ultrafast switching
- Low reverse recovery current
- Reduces switching losses
- Low thermal resistance
- RoHS product



Applications

- Switching Power Supplies



Absolute Maximum Ratings @ $T_c=25^{\circ}\text{C}$

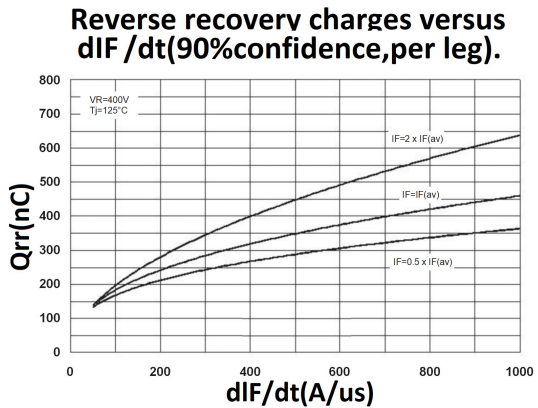
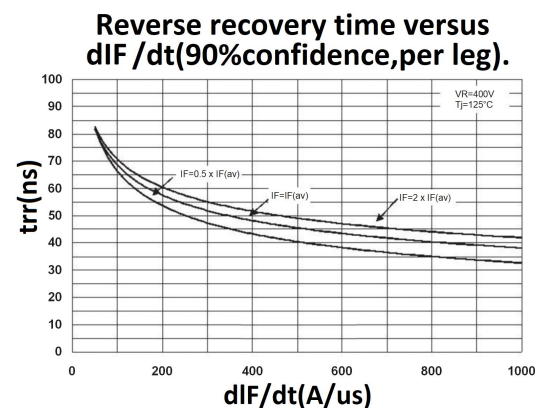
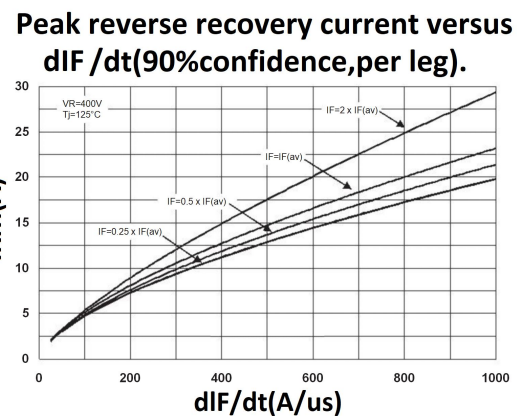
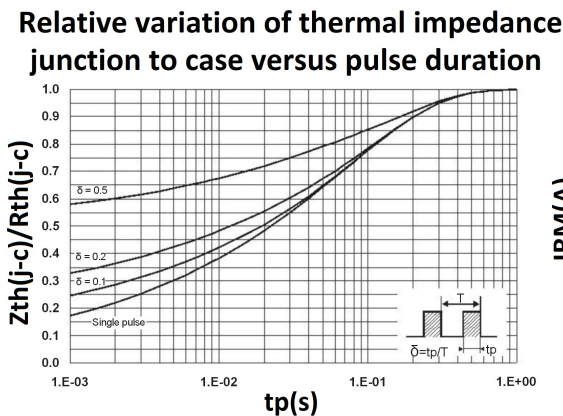
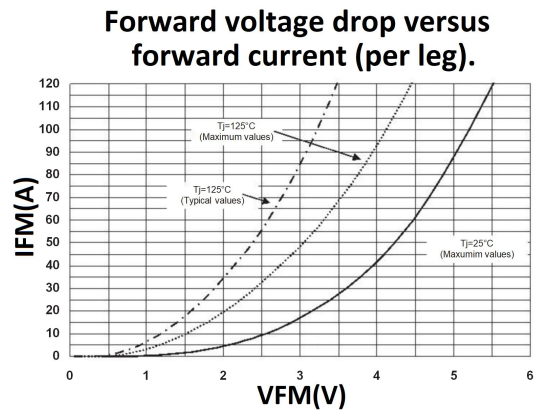
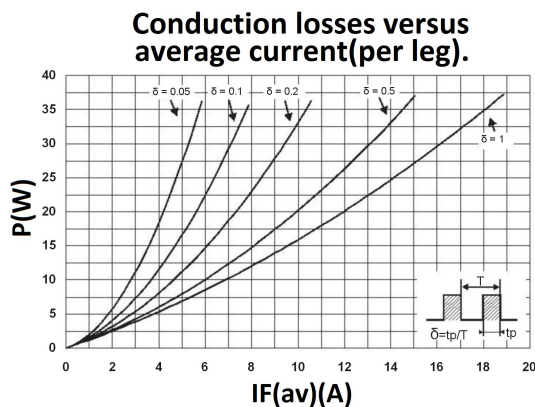
Symbol	Parameter	ratings	Unit
V_{RRM}	Repetitive peak reverse voltage @50 μA	600	V
V_{RWM}	Working Peak Reverse Voltage	600	V
$I_{F(AV)}$	Average forward current @ $T_c=25^{\circ}\text{C}$	22.5	A
	Average forward current @ $T_c=100^{\circ}\text{C}$	45	A
I_{FSM}	Peak one Cycle Surge Forward @ $t=10\text{ms}$	120	A
$I_{F(RMS)}$	RMS forward current	45	A
T_j	Junction Temperature	-55~+175	$^{\circ}\text{C}$
T_{STG}	Storage temperature range	-65~+175	$^{\circ}\text{C}$

Electrical Specifications @ $T_c=25^{\circ}\text{C}$

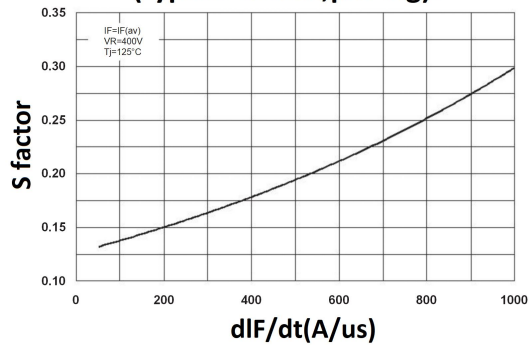
Symbol	Parameter		Ratings			Unit
			Min	Typ	Max	
I _R	T _J =25℃	V _R =V _{RRM}			60	μA
	T _J =125℃			70	800	μA
V _F	T _J =25℃	I _F =20A			2.9	V
	T _J =125℃			1.4	1.8	V
T _{rr}	I _F =1A, V _R =30V, di _F /dt=-50A/μs				50	ns
I _{RM}	V _R =400V,I _F =15A dI _F /dt=-200A/μs	T _J =125℃		7.5	9.0	A
S factor				0.15		
Q _{rr}				220		nC

tfr	IF=15A,dIF/dt=1 20A/μs VFR=1.1xV _{Fmax}	Tj=25°C		200	ns
V _{FP}				6	V
Rth(j-c)	Thermal resistance from junction to case	TO-3PB		0.6	°C/W
		TO-3PF		1.3	°C/W

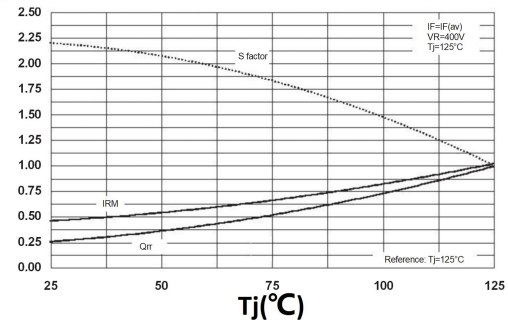
Typical Performance Curves



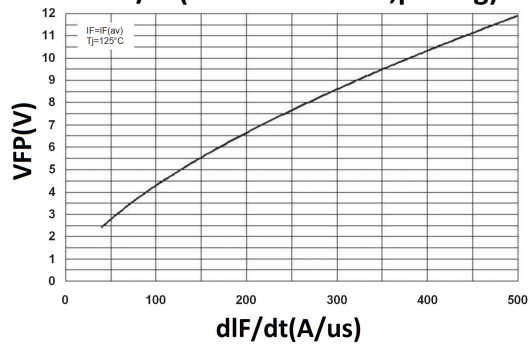
**Softness factor versus dI_F/dt
(typical values, per leg).**



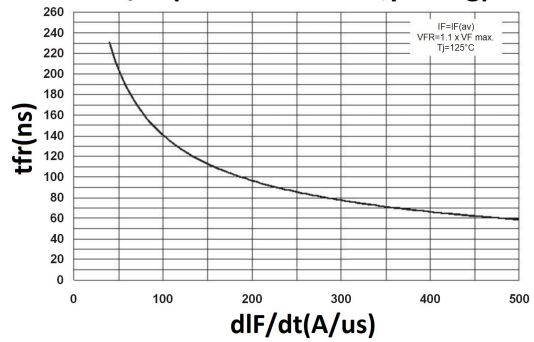
Relative variation of dynamic parameters versus junction temperature



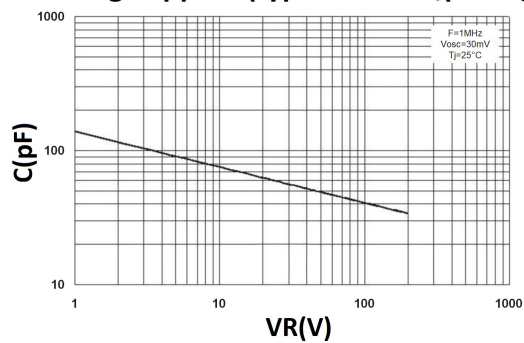
Transient peak forward voltage versus dI_F/dt (90% confidence, per leg).



Forward recovery time versus dI_F/dt (90% confidence, per leg).



Junction capacitance versus reverse voltage applied (typical values, per leg).



Technical drawing of a mechanical part (TO-3PB) showing dimensions in mm. The drawing includes a top view, a side view, and a detail view of the base.

Top View Dimensions:

- Overall width: 15.6 ± 0.3
- Inner width: 14.0 ± 0.2
- Top edge thickness: 2.6 ± 0.2
- Chamfer angle: $30^\circ \pm 5^\circ$
- Top edge chamfer: $\phi 3.2 \pm 0.2$
- Top edge chamfer length: 3.5 ± 0.2
- Central hole diameter: 1.2 ± 0.2
- Side hole diameter: 1.3 ± 0.3
- Bottom edge thickness: 1.6 ± 0.3
- Bottom edge chamfer: $1.0^{+0.3}_{-0.1}$
- Bottom edge chamfer length: 2.0 ± 0.3
- Bottom edge chamfer angle: 0.6 ± 0.2
- Bottom edge chamfer length: 20.0 ± 0.3
- Bottom edge chamfer length: 20.0 ± 0.5

Side View Dimensions:

- Overall height: 4.8 ± 0.2
- Inner height: 2.0 ± 0.2
- Bottom edge thickness: $0.6^{+0.3}_{-0.1}$

Detail View Dimensions:

- Overall width: 5.45 ± 0.2
- Inner width: 5.45 ± 0.2
- Bottom edge thickness: 1.4 ± 0.3

TO-3PB Unit:mm

